UNIV.OF
TORONTO
LIBRARY

UNIVERSITY OF TORONTO

President's Report

FOR THE YEAR ENDING
30TH JUNE, 1926

1925/26

PRESIDENT'S REPORT

1925-1926

To the Governors of the University of Toronto:

GENTLEMEN:—

I beg to submit the following report on the academic work of the University and University College during the twelve months ended June 30th, 1926.

The total staff of the University and University College numbered 672, of whom 85 were professors, 63 associate professors, 62 assistant professors, 123 lecturers, associates (in medicine) and instructors in the College of Education, 2 directors, 1 director of field work, 336 demonstrators, fellows and instructors with sessional appointments. They were distributed as follows:

	Professors	Associate Professors	Assistant Professors	Associates	Lecturers	Directors	Director Field Work	Other Sessional Appointments
University (Faculty of Arts)	26	20	20	..	24	..	..	64
University College	10	11	7	..	10	..	..	7
Faculty of Medicine	22*	10	19	21	10†	..	..	166‡
Faculty of Applied Science	12	7	11	..	13§	..	..	39
Faculty of Household Science	..	2	1	..	2	..	..	5
Faculty of Forestry	1	3	..	..	..	..	..	1
Faculty of Music	..	..	..	..	4	..	..	..
Faculty of Dentistry	12	5	1	20	1	..	..	31
Public Health Nursing	..	..	..	..	1	1	..	11
Social Service	1	..	..	..	..	..	1	12
Ontario College of Education	2	5	3	..	19	..	..	1
Military Studies	..	..	..	..	..	1	..	..

*1 also in University
†2 also in Ontario College of Education
‡1 also in Faculty of Dentistry
§2 also in University

In Victoria College there were:

Professors	15
Associate Professors	2
Lecturers	7
Special Instructor	1

In Trinity College there were:

Professors	12
Lecturers	8

In St. Michael's College there were:

Professors	13
Lecturers	9

With regret I report that the following members of the staff have died during the past academic year:

In October 1925 Dr. James Mavor, Emeritus Professor of Political Economy, passed away suddenly at his brother's house in Glasgow. Professor Mavor had held this chair in the university for thirty-one years, and was one of its best known figures. He was a man of extraordinary versatility with a very wide range of acquaintance in many lands, and his opinions he held firmly and expressed with decision. His work, both as an economist and as a literary man, was

widely known in Britain and on this continent. He will always be remembered with kindliness by the older members of this staff.

With startling suddenness Dr. William Robert Lang was called away in November. Preceding the War he had been for fourteen years Professor of Chemistry in the Faculty of Arts and since the War Director of Military Studies. He threw himself with enthusiasm into the organization and direction of this new department, and was also Officer Commanding the C.O.T.C. The combined work of these departments he brought in a short time to a high degree of proficiency. He is deeply regretted by his colleagues and students.

In September 1925 Dr. Patrick Walter Hughes McKeown, Associate Professor of Surgery and Chief Clinician in Surgery in St. Michael's Hospital, passed away after a protracted illness. For years he had served his Hospital and the Faculty of Medicine with devotion, and his death has removed one who is affectionately remembered by his colleagues.

Dr. Richard Gand McLaughlin, Professor of Dental Jurisprudence and Ethics in the recently created Faculty of Dentistry, died in December 1925. He was a man efficient in his profession and in his teaching, intent on good works, and will long be regretted by a large circle of friends.

Miss Louise Isabel Livingstone, after a painful illness which lasted throughout most of the winter, died in May 1926. For ten years she had been in charge of the Residence for the women of University College known as Queen's Hall, and her memory is cherished with gratitude by those who year after year had been under her kindly supervision.

The following resigned:

Marcel Moraud, L. ès L. (Paris), Associate Professor, French; Owen William Ellis, M.Sc. (Birmingham), Assistant Professor, Metallurgical Engineering; Miss Lois Katharine Stewart, B.S. (Kan.), M.S. (Wis.), Assistant Professor, Household Science; John Lighton Synge, M.A. (Dublin), Assistant Professor, Mathematics; Harvey Clare, M.D., C.M., Associate, Psychiatry; Stewart Gordon Bennett, B.A.Sc., Secretary, Faculty of Applied Science and Engineering, Lecturer, Commercial Engineering.

At the close of the session Professor W. J. Alexander, having reached the age of seventy, retired from active duty in University College, in which for thirty-seven years he had held the chair of English. During these years he taught at some time nearly every student who passed through the College and by universal admission he was one of the most respected teachers of his time.

Leave of absence was granted to the following:

Charles Ryle Fay, M.A. (Camb.), D.Sc. (London), Professor, Economic History, on sick leave for the spring term; George McKinnon Wrong, M.A., LL.D. (McGill), Professor, History, for the spring term; Miss Annie Lewisa Laird, M.S. (Drex.), Associate Professor, Household Science, for the spring term; Ellis Thomson, B.A.Sc., Assistant Professor, Mineralogy; Miss Gladys Ingleson Wookey, M.A., Lecturer, English, on sick leave; Miss Jessie Gertrude Wright, Ph.D., Lecturer, Botany, to exchange with Miss E. R. L. Reed of the University of Western Australia; Miss Agnes Christine McGregor, Director Field Work, Social Service, on sick leave.

In April Professor Oskar Klotz, head of the department of Pathology, was granted leave of absence until the first of November at the request of the International Health Board, Rockefeller Foundation, in order to investigate pathological problems concerning the origin of yellow fever on the West Coast of Africa. The results of this very important commission will probably be of great value in regard to the localisation of this dread disease and, it is hoped, its extirpation.

The following new appointments and promotions were made during the year:

In the Faculty of Arts—Appointments:—William John Webber, B.A. (Camb.), Assistant Professor, Mathematics; George William Brown, M.A., Ph.D., (Chic.) Lecturer, History; Miss Freda Cooper Cole, M.A., Lecturer, French; Michel Poirier, Lic. ès L., Lecturer, French; Miss Norma Henrietta Carswell Ford, B.A., Ph.D., Lecturer, Zoology; A. J. Glazebrook, Special Lecturer, Banking and Finance; Andrew Robertson Gordon, M.A., Lecturer, Chemistry; J. F. Macdonald, M.A., Lecturer, English; Thomas Forsyth McIlwraith, M.A. (Camb.), Lecturer, Anthropology; Robert Edward Kingsdown Pemberton, M.A. (Oxon.), Lecturer, Classics; E. J. Urwick, M.A. (Oxon.), Special Lecturer, Political Economy.

Promotions:—John Satterly, M.A. (Camb.), D.Sc. (Lond.), from an associate-professorship to a professorship in Physics; Emilio Goggio, A.B., M.A., Ph.D. (Harv.), from an assistant-professorship to an associate-professorship in Italian and Spanish; William Paul McClure Kennedy, M.A. (Dub., Ox.), Litt.D. (Dub.), from an assistant-professorship to an associate-professorship in History; Linnaeus Joslyn Rogers, B.A.Sc., M.A., from an assistant-professorship to an associate-professorship in Chemistry; Fulton Henry Anderson, B.A. (Dal.), M.A., Ph.D., from a lectureship to an assistant-professorship in Philosophy; Edward Horne Craigie, B.A., Ph.D., from a lectureship to an assistant-professorship in Comparative Anatomy and Neurology; Geoffrey Elwood Holt, M.A., Mus. Bac., from a lectureship to an assistant-professorship in German; Norris Edward Sheppard, M.A., from a lectureship to an assistant-professorship in Mechanics.

In the Faculty of Medicine—Appointments:—Henry Arthur Cates, M.B., Assistant Professor, Anatomy; Peter Joseph Moloney, M.A., Ph.D., Assistant Professor, Hygiene; J. E. Bates, B.A. (McM.), M.B., Lecturer, Pathology; George Herbert William Lucas, Ph.D., Lecturer, Pathology; John Gerald Fitzgerald, M.D., Director, School of Hygiene; Robert Davies Defries, M.D., D.P.H., Associate Director, School of Hygiene.

Promotions:—Hardolph Wasteneys, Ph.D. (Col.), from an associate-professorship to a professorship in Biochemistry; Nicholas D'Arcy Frawley, M.B., from an associateship to an assistant-professorship in Obstetrics and Gynaecology; George Hunter, M.A., B.Sc. (Glas.), from a lectureship to an assistant-professorship in Pathological Chemistry.

In the Faculty of Applied Science—Appointments:—James Arthur Newcombe, B.Sc. (Lond.), Assistant Professor, Metallurgical Engineering; William Bowie Dunbar, B.A.Sc., Lecturer, Engineering Drawing; William Gourlay McIntosh, B.A.Sc., Lecturer, Mechanical Engineering; Robert J. Montgomery, Cer.E. (Ohio), Lecturer, Ceramics; A. Melbourne Patience, B.A.Sc., Lecturer, Electrical Engineering.

In the Faculty of Household Science—Appointment:—Miss Charlotte Frances Valentine, M.A., Lecturer, Household Science.

In the Faculty of Music—Appointment:—Ernest Campbell MacMillan, B.A., Mus. Doc. (Oxon.), Lecturer, Church Music.

In the Faculty of Dentistry—Appointments:—Entire Faculty.

In the Department of Military Studies—Appointment:—Brigadier-General George Strachan Cartwright, Director of Military Studies.

The total number of students registered in the university in 1925-1926 was 5,480, distributed as follows:

				Men	Women	Total
Faculty of Arts				1,380	1,246	2,626
University of Toronto	165	165	330			
University College	756	591	1,347			
Victoria College	286	303	589			
Trinity College	79	87	166			
St. Michael's College	105	114	219			
Registered twice	11	14	25			
Faculty of Medicine				742	66	808
Faculty of Applied Science and Engineering				442	3	445
Faculty of Household Science				..	57	57
Ontario College of Education				280	224	504
Faculty of Forestry				44	..	44
Faculty of Music				24	39	63
School of Graduate Studies				253	76	329
Faculty of Dentistry				326	20	346
Department of Social Service				12	85	97
Department of Public Health Nursing				..	218	218
Registered twice				46	11	57
				3,457	2,023	5,480

The figures may be further analysed as follows:—

FACULTY OF ARTS

University of Toronto

	Men	Women	Total
Teachers' Courses and Summer Session	143	155	298
Occasional Arts students	22	10	32
	165	165	330

University College

	Men	Women	Total
First year undergraduates	233	184	417
Second year undergraduates	193	136	329
Third year undergraduates	147	113	260
Fourth year undergraduates	152	115	267
Occasional students	31	43	74
	756	591	1,347

Victoria College

	Men	Women	Total
First year undergraduates	98	83	181
Second year undergraduates	65	79	144
Third year undergraduates	72	69	141
Fourth year undergraduates	48	70	118
Occasional students	3	2	5
	286	303	589

Trinity College

	Men	Women	Total
First year undergraduates	29	33	62
Second year undergraduates	22	23	45
Third year undergraduates	13	15	28
Fourth year undergraduates	13	11	24
Occasional students	2	5	7
	79	87	166

St. Michael's College

	Men	Women	Total
First year undergraduates	38	35	73
Second year undergraduates	27	35	62
Third year undergraduates	12	17	29
Fourth year undergraduates	22	26	48
Occasional students	6	1	7
	105	114	219

FACULTY OF MEDICINE

	Men	Women	Total
First year undergraduates	105	9	114
Second year undergraduates	110	14	124
Third year undergraduates	107	14	121
Fourth year undergraduates	101	9	110
Fifth year undergraduates	110	7	117
Sixth year undergraduates	182	9	191
B.Sc. (Med.) undergraduates	4	2	6
Candidates for D.P.H	4	..	4
Post Graduate students	18	2	20
Occasional student	1	..	1
	742	66	808

FACULTY OF APPLIED SCIENCE AND ENGINEERING

	Men	Women	Total
First year undergraduates	126	..	126
Second year undergraduates	106	1	107
Third year undergraduates	117	2	119
Fourth year undergraduates	93	..	93
	442	3	445

FACULTY OF HOUSEHOLD SCIENCE

	Men	Women	Total
First year undergraduates	..	34	34
Second year undergraduates	..	17	17
Third year undergraduates	..	5	5
Occasional student	..	1	1
	..	57	57

ONTARIO COLLEGE OF EDUCATION

	Men	Women	Total
Students in attendance	95	168	263
Extra-mural students	40	40	80
Students in B.Paed. course	145	16	161
	280	224	504

FACULTY OF FORESTRY

	Men	Women	Total
First year undergraduates	13	..	13
Second year undergraduates	11	..	11
Third year undergraduates	7	..	7
Fourth year undergraduates	13	..	13
	44	..	44

FACULTY OF MUSIC

	Men	Women	Total
First year undergraduates	12	13	25
Second year undergraduates	3	12	15
Third year undergraduates	6	14	20
Occasional student	1	..	1
Candidates for Mus. Doc. degree	2	..	2
	24	39	63

SCHOOL OF GRADUATE STUDIES

	Men	Women	Total
Candidates for Ph.D	65	16	81
Candidates for M.A	94	24	118
Candidates for M.D	2	..	2
Candidates for Ch.M	1	..	1
Candidates for M.A.Sc	8	..	8
Candidates for M.Arch	1	..	1
Candidates for C.E	2	..	2
Candidates for D.Paed	51	3	54
Graduate students	30	33	63
Duplicates	1	..	1
	253	76	329

FACULTY OF DENTISTRY

	Men	Women	Total
First year undergraduates	52	..	52
Second year undergraduates	68	2	70
Third year undergraduates	60	..	60
Fourth year undergraduates	59	1	60
Fifth year undergraduates	87	5	92
Occasional students (Dental Nurses)	..	12	12
	326	20	346

DEPARTMENT OF SOCIAL SERVICE

	Men	Women	Total
First year full-time students	3	26	29
Second year full-time students	2	16	18
Part-time students	7	43	50
	12	85	97

DEPARTMENT OF PUBLIC HEALTH NURSING

	Men	Women	Total
Full-time students	..	37	37
Part-time students	..	181	181
	..	218	218

The numbers examined in the different departments of the university, including those persons granted standing for military service, were as follows:—

Arts:

Fourth Year	482	
Third Year	490	
Second Year	648	
First Year	808	
Teachers' Course	292	
	——	2,720

Medicine:

Sixth Year	188	
Fifth Year	116	
Fourth Year	109	
Third Year	122	
Second Year	95	
First Year	111	
D.P.H.	3	
B.Sc. (Med.)	7	
	——	751

Applied Science and Engineering:		
Fourth Year	93	
Third Year	117	
Second Year	106	
First Year	126	
		442
Household Science		56
Education		415
Forestry		44
Music		53
Graduate Studies		161
Dentistry		345
Social Service		71
Public Health Nursing		34
Law		16
Pharmacy		78
Agriculture		38
Veterinary Science		12
Local Examinations in Music		16,331

The degrees conferred were:	Men	Women	Total
LL.D. (Honorary)	12	..	12
Mus.Doc. (Honorary)	1	..	1
Ph.D	8	2	10
M.A.	48	15	63
M.A.Sc.	5	..	5
M.Arch.	1	..	1
C.E.	1	..	1
D.Paed.	2	..	2
B.A.	226	233	459
B.Comm.	21	1	22
M.B.	183	10	193
B.Sc. (Med.)	6	1	7
B.A.Sc.	89	..	89
B.Arch.	4	..	4
B.Paed.	23	1	24
B.Sc.F.	13	..	13
Mus.Bac.	1	..	1
LL.B	1	..	1
D.D.S.	80	3	83
B.S.A.	33	..	33
B.V.Sc.	12	..	12
Phm.B.	67	1	68
D.P.H.	3	..	3
	840	267	1,107

Exclusive of the Faculty of Dentistry this total is larger than that of the preceding year by three hundred students, the increase being chiefly in the Faculty of Arts and the Ontario College of Education.

In addition to the students in regular courses at least 2,225 persons have been receiving instruction provided by the university through its evening classes held in Toronto, Hamilton, and other cities and towns of the Province.

During the past session the school of the Royal College of Dental Surgeons became the Faculty of Dentistry in the university, thereby adding 346 students to the roll of the university, and bringing new demands and new opportunity for meeting the needs of the people of the Province. It is hoped that the university will be able, as it has done in so many other instances, so to develop teaching and research in this Faculty that the profession of dentistry in Canada will more than maintain the high position that it now occupies.

The Reception Hospital for the observation of mental diseases, erected at

the expense of the city and maintained by the Government of the Province, was opened for teaching purposes at the beginning of the session. The Director of the Hospital, Dr. C. B. Farrar, was also appointed Professor of Psychiatry in the university. It is hoped that under him the opportunities now made available will prove to be of high advantage to the medical students of the university and in the understanding and restraint of mental diseases.

The university was fortunate in being able to supply the place of the late lamented Colonel Lang by Brigadier-General G. S. Cartwright, who already for some years had been a voluntary instructor in the department and was able to carry on the work with the least possible interruption.

We are also indebted to Mr. E. J. Urwick, formerly professor in King's College, London, for having so willingly undertaken lectures in Economic History for which, owing to the illness of Professor Fay, it was necessary to provide during the second term.

The university continues to be under indebtedness to gentlemen in various branches of business who have delivered lectures to the students in commerce on phases of business with which they have been especially familiar. Mention should be made of the services rendered by Messrs. Macaulay, Hume Cronyn, Herdegan, Marvin, Ratcliffe, Pritchard, J. A. Tory and S. R. Parsons.

The figures in this report with regard to the attendance give all the information that is necessary, and I may merely draw attention to the fact that the numbers in the Ontario College of Education have been unusually large and that the supply of high school teachers in Ontario, like that of the public school teachers, now exceeds the demand. In the new course provided in the Faculty of Household Science there has been a larger attendance than was anticipated. It is also noteworthy that more students from other countries than Canada are coming to the University each year, and especially is this manifested in the Department of Public Health Nursing in which last session several students from Europe, chiefly supported by the Rockefeller Foundation, received their training. I would call attention to the new arrangement of the course in Nursing which is outlined in the Report of the Director.

On January 19 the new Forestry Buildings were opened, and a hope long cherished has been fully realized. Also on January 20 the foundation stone of the School of Hygiene was laid. The erection of this building has been made possible through the gift of the Rockefeller Foundation, and when completed it will be one of the most adequate for its purpose to be found in any university. To provide a site the Department of Social Service was transferred to a residence on St. George Street, which, without very large expense, accommodates the department even better than did its former home. The presentation of a portrait of the Honourable Robert Baldwin was the occasion of a very interesting gathering in Baldwin House on December 16. The portrait, made from the most authentic likenesses, is the gift of his descendants, and is a valuable acquisition to the university which owes so much to this statesman.

Most significant also of the great change that has come about in the higher education of this Province is the fact that in October 1925 there was the formal opening of the beautiful new building of Trinity University and College on the grounds of the university, and that the Senate of the university held a special Convocation at which honorary degrees were conferred in recognition of this event. The success of university federation in Toronto is an accomplishment of which all those who had a share in bringing it about may be justly proud.

One of the many distinguished visitors at the university during the past session, after studying carefully the faculties at work, expressed in public his

admiration for the spirit of the university particularly as shown in the unity that pervades its multiplicity. He found here a federation in which various units are reconciled while retaining their individuality and receiving support from the Province; also a great variety of faculties and departments brought together in close relationship so that throughout them all there is a strong feeling of being organically connected with a larger whole. Among the students he found this manifested in Hart House, where the men of the various faculties come together in one building affording them almost every variety of social, athletic and spiritual opportunity. Indeed the unique value to the university of Hart House is now widely recognized not only on this continent, but in Britain as well. If the observation as to our unity in multiplicity be correct, as I believe it to be, the future of the university is well assured, for one of its main purposes is to afford the support and stimulus that come to all professors and students from the realization that they are members of one body, and that by each member performing its function the health and work of the body will be developed.

Other visitors have been impressed also with the goodwill that exists between the university and the city. My observation would lead me to believe that this has been increasing and that the city is well disposed towards the university whose name it bears.

I wish in this report to draw special attention to the great growth in the spirit of research that has been manifested in the past five or six years. The university is alive with a new life and from every part of it there comes the desire to have a share in the advancement of knowledge, and in the deeper understanding of the forces both in the human and natural world, which must always be under investigation by any great university. A survey of the work of the period will be found in the appendix.

Hart House has been such a factor in the life of the men students in this university that the lack of any building in which the common life of the women of the university may be promoted is all the more felt. The facilities for their physical training are quite inadequate, and there are no rooms in which the women of all colleges and faculties can meet together for general university purposes. During the past year plans for a new building have been drawn up, and again I wish to express the strong hope that it will not be long before these plans are carried into effect.

In an annual survey it is only right that mention should be made of the special needs of the university. Of all the departments Botany is that which has been waiting longest for better equipment. For many years the great need of a Botanic Garden for this university and Province has been emphasized. In the neighbourhood of Toronto a suitable site may be obtained in which the national botanical treasures may be displayed and their economic possibilities set forth. Recently the Director of the Royal Botanic Gardens at Kew has visited the city, and once again it has been brought to our attention that such a Garden is a necessity for the study of native vegetation, the preservation of native flora, and the promotion in the Dominion of economic developments similar to what has been so effectively done for years by Kew Gardens.

Another need that for years has remained unmet is the provision of an Observatory with a modern telescope worthy of this Province and of the university. It is probable that the city could be induced to co-operate with the university in both these enterprises, and in both there is a field for private benefaction.

It will be necessary soon to enlarge the Library. It is now nearly twenty years since the last addition was made, and the space on the shelves is almost filled. The use of the library, as I have mentioned in my former reports, has been greatly increased of late years, and the growth of graduate work makes

far greater demands upon it. It has a larger collection of scientific and foreign periodicals than any other in Canada, and though it offers average opportunities for work the money spent upon it has not enabled the Librarian to overtake the demands made upon him for books for the different departments. Both accommodation and contents must be added to.

During the session the following special lectures were delivered:

A course of twelve lectures on "Some Manners and Customs of Peoples of the World" by Sir Bertram Windle, F.R.S., special lecturer in Ethnology in the University of Toronto; two lectures on "Roman Aqueducts" and "Roman Roads" by Dr. Thomas Ashby, Director of the British School of Archaeology at Rome; two lectures by Dr. Gilbert Bagnani of Rome on "Life in Ancient Rome under the Empire" and "Pagans and Christians in the Light of Recent Discoveries"; three lectures on "Matthew Arnold" by Professor G. G. Sedgewick of the English Department of the University of British Columbia; five lectures with readings from his own poems by Bliss Carman, the Canadian poet; a lecture on "The League of Nations and the Schools" by Dr. Maxwell Garnett, Secretary of the League of Nations Union of Great Britain; three lectures on "Plant Population and Juxtaposition as Leading to Conjoint Life", "Size as a Factor in Stellar Morphology", and "Natural Classification of Ferns" by Professor F. O. Bower of the University of Glasgow.

The third triennial delivery of the Marfleet Lectures took place last November when in a series of three lectures The Honourable John Bassett Moore of the Permanent Court of International Justice at the Hague, dealt with "Judicial Power: Its Possibilities and Limitations." These lectures will shortly be published.

Dr. F. A. Mouré, University Organist, again gave a series of Organ Recitals in Convocation Hall to large audiences.

Three Special Convocations were held: In September for the purpose of conferring an honorary degree upon the Right Honourable Baron Buckmaster; in October in connection with the formal opening of the new Trinity College Building, when honorary degrees were conferred upon the Lord Bishop of Toronto, Miss Mabel Cartwright and C. S. MacInnes, Esq.; in March when an honorary degree was conferred upon Field Marshal Viscount Allenby.

During the past year the University has received the following benefactions:

From the Rockefeller Foundation, payment on account of grant for construction of new Hygiene Building, $300,000; second payment on account of School of Hygiene, $12,500; Eaton Endowment (annual payment), $25,000; Laura Spelman Rockefeller Memorial for Child Research, $12,000; John Honor bequest, $7,106; Margaret W. Baptie bequest, $4,000; Dr. D. C. Balfour, Lectureship in Surgery, $4,000; Graduate Fellowships: Colonel R. W. Leonard, $500; Imperial Oil Company, $500; Sir Edward Kemp, $500; The Robert Simpson Company (for 1926-27), $500; Canadian Pacific Railway (for 1926-27), $1,500; Canadian National Clay Products Association for Ceramics, $3,000; Ontario Women's Liberal Association, for Sir Wilfrid Laurier Memorial Scholarship, $2,100; E. R. Peacock, Esq., and Sir Joseph Flavelle, for Flavelle-Peacock Lectureship, $1,250 each; Federation of Jewish Philanthropies, for Rabbi Brickner Scholarship in Social Service, $1,050; David Fasken Trust, $1,000; Mrs. F. F. Dalley, Sr., for Physiology Research, $600; Robert Bruce Scholarship, $460; Sir Henry Thornton, for Sesquicentennial Exposition, $360; Boiler Inspection and Insurance Company, Scholarship in Mechanical Engineering, $150; T. Eaton Company, Limited, for Sir John C. Eaton Memorial Scholarship, University Schools, $120; the late Mrs. Herbert Barton for Jardine Memorial Prize, $100; McCaul Scholarship in Classics: G. A. H. Fraser, Esq., $25;

Principal M. Hutton, $25; A. M. Stewart, Esq., K.C., $25; Toronto Bankers' Educational Association, Prize in Physics, $50; Dr. R. A. Reeve Prize, $50; University College Alumnae, for Prize in English, $10.

All of which is respectfully submitted.

Robt. A. Falconer,
President.

October 28, 1926.

APPENDIX A

(1) Report of the Principal of University College.
(2) Report of the Dean of the Faculty of Medicine.
(3) Report of the Dean of the Faculty of Applied Science.
(4) Report of the Dean of the Ontario College of Education.
(5) Report of the Dean of the Faculty of Forestry.
(6) Report of the Dean of the Faculty of Music.
(7) Report of the Dean of the School of Graduate Studies.
(8) Report of the Dean of the Faculty of Dentistry.
(9) Report on Research.
(10) Publications.
(11) Report of the Librarian.
(12) Report of the Director of the Department of Social Service.
(13) Report of the Director of the Department of Public Health Nursing.
(14) Report of the Director of University Extension and Publicity.
(15) Report of the Director of the Department of Military Studies.
(16) Report of Health Services.
(17) Report of the Warden of Hart House.
(18) Report of the Director of the Connaught Laboratories.
(19) Statement regarding the Biological Museum.
(20) Statement regarding the Museum of Geology.
(21) Statement regarding the Museum of Palaeontology.
(22) Statement regarding the Museum of Mineralogy.
(23) Statement regarding the Museum of Archaeology.

(1) REPORT OF THE PRINCIPAL OF UNIVERSITY COLLEGE

(*Professor Maurice Hutton*)

The Session of 1925-1926 has been passed under the disadvantage involved in the resignation of Professor John Macnaughton—a tower of strength in himself to University College, with his unequalled combination of scholarship, eloquence, breadth of view and popularity—and in our inability to find a successor adequate to fill his chair.

The disadvantage passes away with the session; and in Professor Gilbert Norwood, formerly fellow of St. John's College, Cambridge, and Professor of Classics in University College, South Wales, and well-known classical author, we have reason to hope that even John Macnaughton's absence will not be irremediable—*il n'y a pas d'homme nécessaire*—not even John Macnaughton.

Meanwhile the college department of Latin has functioned fairly well with the assistance of the staff in Greek and with the addition of Mr. Pemberton, a first-rate Oxford man, whose services have been placed at our disposal by the kindness of the Provost of Trinity College.

Professor J. H. Cameron, head of the French department, will be away on leave of absence after the end of this session; no department is more congested and the withdrawal of Professor Cameron will involve new appointments, one or, better, two, in French.

In spite of the withdrawal from University College of the Administration, the pressure on its lecture-rooms continues very severe and embarrassing: large classes in Mathematics and Political Science—not College subjects—have still to be provided for by University College.

The suggestion from the Premier and Minister of Education that the first year should be handed back to the schools of the Province and that the university course should be thereby shortened by one year at least, has not—in the form which it has hitherto taken—recommended itself to this any more than to the other Colleges: but University College is heartily in agreement with the Minister that the courses in the secondary schools of the Province should be lengthened by two or three years; not, however, at the end of the school course when the pupils would be in all cases too senior to profit by schoolroom methods and in many cases too advanced to find adequate teaching, but at the beginning. It has long been the glaring blot upon our secondary schools that they get their entrance pupils two or three or even four years too late. What can the average boy or girl be expected to make of foreign languages, ancient or modern, if they cannot begin them at the natural age for beginning foreign languages(as well as native languages), childhood, from the age of eight or nine years to twelve? At present the majority are nearer fourteen, and never recover the handicap of a start so conspicuously belated; no civilized country except Canada expects to make language scholars out of children who are caught so late; possibly Ontario has not expected it either; at any rate it has witnessed, hitherto without protest or counter-effort, the disappearance of Greek even from some Institutes (including the vast majority of those in Toronto itself), and the steady lessening of the supply of good students in Latin in proportion to the need of them; the number of specialists in Classics is at the present moment quite inadequate to the number of secondary schools which should be manned by them; as a result Latin is actually taught in some of these schools to-day to candidates for honour matriculation, by teachers who have never taken more than a pass course in Latin themselves; the condition would be ludicrous if it were not lamentable.

Any shifting of first year work (especially first year honour work) back to the schools would reduce the honour graduation standards of this college *pari passu;* any such reduction would remove at once the one conspicuous advantage which the University of Toronto possesses over every other university of this continent; the proficiency reached by its honour students at the date of graduation, and the advantage they possess over other graduates in the graduate universities of this continent, in the competition for scholarships, fellowships and, eventually, professorships.

It is not by accident that Toronto graduates fill so many chairs in the new universities of Canada and the United States; it is the direct result of the high standard of our honour students at graduation; that standard has been in its turn the direct result of four years in honours in University College and the sister colleges of this university. For example, in classics we have seen, during this session, three honour graduates of this college teaching classics in a sister university in virtue, and in virtue alone, of our four year honour course, against which other universities of Canada could not compete.

The points I have been trying to make are in no case my own only or even my college's alone; they rather show that University College in this matter of the first year in the secondary schools is in entire agreement with the staff of Victoria College and of Trinity.

(2) REPORT OF THE DEAN OF THE FACULTY OF MEDICINE

(*Professor A. Primrose*)

Conditions which obtained after the Great War produced abnormal results in many walks of life. Among other things, as we have noted in previous reports, an unusually large number of students entered the professions becoming enrolled as students in various faculties. Large classes in Medicine have gradually filtered

through the course since war time until, at last, these have completed their studies and classes in all years will henceforth be of normal size. In the session which has just closed there were 191 students in the sixth year. Next year there will not be more than 120 in the final year. We are thus relieved of the difficulties we have encountered in recent years in our effort to provide efficient teaching in the clinical years for classes which were unduly large.

In June 1925 the first class under the regulations demanding six years of study in lieu of five years, graduated. It might well have been supposed that after the longer course of study an increasing percentage would go at once into private practice and would not voluntarily take an additional year after graduation as interne in a general hospital It is significant, and most gratifying to note, that such is not the case. Under the old regulations demanding five years of study the following results were found: in 1922 those who entered private practice immediately after graduation amounted to 19 per cent.; in 1924 there were 12 per cent., while in 1925 (six year course) there were only 9 per cent. This speaks well for the efficiency of the training of our graduates when, after an exacting course of study extending over six years, such a large percentage voluntarily avail themselves of the great advantage of an additional year in hospital before beginning the practice of their profession in private.

We record with great regret the death on September 4th, 1925, of Dr. Walter McKeown, Associate Professor of Clinical Surgery in the University of Toronto. As senior member of the university staff in surgery at St. Michael's Hospital he played an important part for many years. He was an inspiring teacher and his services in that regard were valued highly by successive groups of students. In 1915 he went overseas with No. 4 Canadian General Hospital—the university unit. He remained two years at Folkstone as Chairman of the standing medical board and afterwards became officer commanding the Kitchener Hospital at Brighton. He was promoted to the rank of Colonel, and subsequently received the decoration of C.B.E. in recognition of his services. He returned to Canada and resumed his practice in August 1919. He will be greatly missed by his many friends in the medical profession, but nowhere more keenly than by his colleagues in the Faculty of Medicine.

Colonel W. R. Lang, Director of Military Studies in the University of Toronto, died suddenly on November 1st, 1925. He was Professor of Chemistry from 1900 to 1919, and in that capacity for a period of 20 years was a member of the Faculty of Medicine. He had a distinguished military career, and as officer commanding the C.O.T.C. will be remembered by the many medical students who passed through that corps: a corps which was brought to a high degree of efficiency under his command. Among our graduates since 1900 he will be remembered best as head of the Department of Chemistry. He was an excellent teacher and was most successful in adapting the work of his class to the requirements of the student in medicine. He was on terms of the closest personal friendship with both students and staff. His many friends in university circles view with the deepest regret the loss sustained by his death.

The new reception hospital in Surrey Place was opened in December 1925 with Professor Farrar as Director of the Psychiatric Clinic. The exceptional facilities offered in this clinic for the training of students and for research in Psychiatry are unsurpassed. The establishment of this hospital and clinic under Professor Farrar and his staff makes most effective provision for the training of students of the Faculty of Medicine in Psychiatry.

Professor Oskar Klotz, head of the department of Pathology, proceeded early in May to Lagos, West Africa, at the request of the Rockefeller Foundation, to undertake an exhaustive research regarding the etiology of yellow fever and its remedies. Professor Klotz will be absent on this special duty for about six months. Professor C. L. Starr, head of the department of Surgery, was during the month of March, acting head of the department of surgery of Harvard

University and Chief Surgeon to the Peter Bent Brigham Hospital in Boston. He undertook these duties in the absence of Professor Harvey Cushing, who was absent in Edinburgh delivering the Cameron lectures. In June 1926 the degree of LL.D. *honoris causa* was conferred upon the Dean of the Faculty of Medicine, by the University of Edinburgh, on the occasion of the celebrating of the two-hundredth anniversary of the founding of the Faculty of Medicine in that institution.

We record with great satisfaction the generous gift of one of our graduates, Dr. Donald C. Balfour of Rochester, Minnesota, who has donated the sum of $4,000 to found a lectureship in Surgery.

In recent years the efficient organization of the clinical departments, made possible by the Eaton Endowment in the Department of Medicine and by the Rockefeller Foundation in the other clinical departments, has proved of the highest service in medical education. It is worthy of note that the organization of our clinical departments for teaching and research has attracted widespread attention. Visitors from abroad, many of whom were experienced teachers, have expressed unqualified approval of the system in vogue and were impressed with the initiative displayed by the heads of these departments in the organization which they had developed. Our various laboratory departments have also attained an enviable reputation in their organization and equipment. The most recent extensive addition to our laboratory facilities consists in the new building for the department of Anatomy in which exceptional facilities are now available for both teaching and research. The department of Hygiene will have the new building of the School of Hygiene available in the autumn; the space vacated by Hygiene in the medical building will be utilized by the departments of Pharmacology and Biochemistry for much needed expansion.

The Department of Surgery:—The lamented death of Dr. P. W. H. McKeown, which occurred on the 4th September, 1925, has already been recorded in this report. At the time of his death he was senior surgeon on the university staff in St. Michael's Hospital and certain changes became necessary as a result of the vacancy which was created. Dr. Gideon Silverthorn was advanced to the position of surgeon-in-chief of the university clinic in that Hospital. Dr. Wallace Scott is acting chief during the brief leave of absence granted to Dr. Silverthorn, who is visiting some of the British and Continental clinics. Dr. J. W. McConville, a graduate of Glasgow University, has been appointed recently to the staff of St. Michael's Hospital and has been recommended for a fellowship in Surgery in the university for the coming year.

The clinical work at the Western Hospital has definitely advanced under the guidance of Dr. Beatty, with the close co-operation of the rest of the staff. No change has occurred in the personnel of that hospital during the past year. Dr. J. H. Wood was granted leave of absence for post-graduate study in Europe.

At the Toronto General Hospital the teaching staff in surgery has not changed; the work there has progressed satisfactorily. Dr. J. A. MacFarlane has rendered good service as Fellow and has proved to be an excellent clinical teacher. The bi-monthly staff meetings continue to attract all the clinicians and are of great practical value and interest.

The head of the department of Surgery has acceded to the request of Dr. Dean Lewis, professor of Surgery in Johns Hopkins University, to contribute the section on Osteomyelitis to the "New System of Surgery" of which Dr. Lewis is Editor. We have elsewhere referred to the fact that the head of the department of Surgery undertook the duties of Dr. Harvey Cushing, professor of Surgery at Harvard University, as surgeon-in-chief of the Peter Brent Bigham Hospital, during the absence of the latter in Europe.

The work in the metabolic ward has been carried on with the co-operation of the professor of Pathological Chemistry. Valuable progress has been made in arriving at a rational treatment of the early and late toxaemias of pregnancy,

and investigations have been carried on to determine the blood standards in normal pregnancy. While the research work in the toxaemias is far from being complete the metabolic unit has more than justified its establishment as a permanent organization in the department.

Department of Psychiatry:—Owing principally to the fact that the new Psychiatric Hospital was not in operation at the opening of the session no changes were made in the programme of instruction.

In the fifth year the lectures constituted an introduction to psychopathology and were conducted by the Head of the Department. In this course the developmental viewpoint, in psychiatric conditions, was stressed with particular reference to child psychology and psychopathology, and to hereditary and constitutional tendencies. The clinical conditions were discussed from the standpoint of constitutional reaction modes. Supplementary to this course Dr. Crawford gave two lectures on neuro-syphilis. During the first half of the session the fifth year optional course was conducted by Dr. Eric Clarke, there being seventeen students enrolled. The work was done at St. John's Industrial School. The various subnormal and abnormal conditions and personality problems presented by the pupils in this school were discussed. The students were assigned individual cases and made their own examination and reports. Subsequently the cases were reviewed by the instructor. During the second half of the session Dr. McLarty continued the optional course principally at the Toronto General Hospital. The psychiatric aspect of general medical cases was studied, the students making individual examinations.

Clinics for the sixth year were conducted in the Ontario Hospital for the Insane. The work was conducted by Drs. Vrooman and Fletcher: the more common and more important types of mental disease were studied. Students were required to examine patients, to write short histories and to indicate the diagnosis and prognosis. The legal requirements in connection with such cases were discussed.

The Banting and Best Chair of Medical Research:—In January 1926 the laboratories for research were transferred from the medical building to the Pathological Department. The results of investigations of the function of the suprarenal body are published in the Report on Research.

Other publications from the department are:—"Diabetes and insulin"—Nobel Prize Address—F. G. Banting. "Medical research"—F. G. Banting.

Department of Anatomy:—The course in practical anatomy is now given partly in the second year and partly in the third year. This change, which was inaugurated last year, necessitated the transfer of part of this work to the morning hours.

The number of students taking optional courses was double that which was expected. The course in sectional anatomy was given by the head of the department; in the anatomy of joints by Dr. Cates; in special regional anatomy by Dr. Watt; in dissection of the brain by Dr. Linell, who also gave a course on the sense organs; in cytology by Dr. Piersol. A total of 116 students elected options in the department of anatomy.

When the Royal College of Dental Surgeons became the Faculty of Dentistry in the University of Toronto it was hoped the course in anatomy for dental students might be given in the anatomy building; unfortunately this was not possible. A large room which was available for this purpose had been loaned to the department of Physiology and as suitable quarters could not be secured elsewhere the arrangement had to be continued. The dental course, under the direction of Dr. Watt, has been given in the building of the dental college. This arrangement interferes with efficiency of teaching and it is hoped provision may be made for physiology elsewhere so that the difficulty will be overcome.

Department of Physiology:—The main changes in the teaching in this department have been connected with the provision necessary for instruction in

physiology for the dental students. This instruction has been designed with two objects in view: (1) to give a good scientific grounding in the fundamental principles of physiology and experimental medicine and (2) to show these principles applied in dentistry. The practical work of this course is in charge of Dr. Taylor, who also gives the special lectures on dental physiology.

The increasing number of students taking the combined Arts and Medicine course is a hopeful sign that as years go on a greater and greater proportion of medical graduates in this university will have taken this course. There can be no doubt of the great advantages to the students which is obtained by the extra year in the Arts faculty. Their viewpoint is broader, their interest in the subjects more intense and it is significant that a large proportion of those who take high standing in the clinical years are men of this class.

In the combined Arts and Medicine course the elementary laboratory work has been transferred from the fourth to the third year so that didactic and practical instruction are now given in the same year. In the fourth year a certain amount of advanced biochemistry has been included. A number of fourth year students have received additional advanced instruction by choosing biochemistry as an option.

Students in the new Faculty of Dentistry in the third, fourth and fifth years have received lectures from the head of the department. Laboratory work has also been provided for the third year, necessitating the appointment of Dr. M. A. Cox as fellow in biochemistry in the Faculty of Dentistry.

Fifteen graduate students registered with the department during the year. One candidate for the B.Sc. (Med.) spent a year in biochemical research. Special instruction of an advanced nature has been given to two graduate students, one from the Faculty of Dentistry and one from the Hospital for Sick Children. A separate report on research will be found in the President's report.

Department of Pharmacy and Pharmacology:—Teaching was carried on under certain difficulties due to the fact that temporary assistants alone were available.

Department of Pathology and Bacteriology:—The concentration of the teaching of general and special pathology in the fourth year has proved of advantage. The work of the fifth year has been very satisfactory. A number of the theses written by the members of the sixth year, based on a subject as illustrated by an autopsy which they have attended, are worthy of commendation. They have apparently been the means of stimulating collateral reading. The conferences in pathology for the sixth year have been most successful; they function as a review of the salient points of selected topics. The co-operation of members of the departments of Anatomy, Medicine and Surgery, and the help of outside clinicians, has contributed greatly to the interest and benefit of these meetings.

Department of Hygiene and Preventive Medicine:—The new building for Hygiene and certain other departments will be ready for occupancy next session.

During last session a large number of students were enrolled for undergraduate courses. Field work, as in previous years, was provided for 117 students. This work was carried on in co-operation with and by the assistance of the Ontario department of health, and the health department of the city of Toronto. The facilities for field work, thus provided, have made it possible to conduct practical work in preventive medicine and public health perhaps superior to that to be found elsewhere. There were enrolled forty-three students in graduate courses during the academic year.

Preliminary science instruction is carried on in the departments of Biology, Chemistry and Physics. Special courses are provided for undergraduates in medicine and are arranged with the object of providing a training in these sciences which will be of the greatest service to those entering the profession

of medicine. The provision thus made is wholly adequate and of the highest possible value.

Graduate Study:—It is a noteworthy fact that graduate study is continuously on the increase in the various departments of the Faculty of Medicine. The facilities available both in laboratories and clinics are increasing from year to year and are taken advantage of by a large number of graduates. A special committee of the faculty exists for the purpose of arranging such courses for individual applicants.

Extension Lectures:—There has been a very important expansion of the work done and the territory covered in connection with extension lectures. For the past five years, in conjunction with the Ontario Medical Association, lectures, demonstrations and clinics have been given to groups of practitioners throughout the Province of Ontario by members of the university staff. A year ago the Canadian Medical Association acquired $30,000 from the Sun Life Assurance Company for the purpose of carrying on similar activities in Canada from the Atlantic to the Pacific. All universities in Canada, with teaching faculties in medicine, have been asked to co-operate. In this manner has been initiated a movement which, at least in the extent of territory covered, is unique in the history of medical education. Its success is already assured; great enthusiasm has been exhibited throughout the whole Dominion by the work which has already been accomplished. During the past session members of the staff of the Faculty of Medicine of the University of Toronto have contributed 85 lectures, etc., under the Canadian Medical Association scheme and 86 lectures, etc., in conjunction with the Ontario Medical Association.

Research:—Reference has already been made in this report to research activities carried on in individual departments of the Faculty of Medicine. It is impossible to do more than indicate in this manner the scope of these researches. A much more detailed statement is found in a special section of the President's report, covering all departments of the university. The information we have given in successive reports is sufficient evidence to show that research is conducted in all departments with increasing interest and activity. Important contributions to medical knowledge have been made as indicated in the published reports in scientific journals.

(3) ANNUAL REPORT OF THE DEAN OF THE FACULTY OF APPLIED SCIENCE AND ENGINEERING

(C. H. Mitchell, Esq., LL.D., D.Eng.)

The general results for the session now closing in this Faculty have been most satisfactory. The work both in lecture room and laboratory has been marked by increased application and diligence on the part of the students and by greater endeavour on the part of the staff.

Again I have to report a decreased number in attendance, but, on the contrary, the first year had an increase of about 10 per cent. over that of the previous year. I consider that now the full effect of the increased standard of entrance has been felt and signs are not wanting that there will now be a steady though slight increase in attendance in the faculty as a whole. A factor in this is, of course, the general conditions in the country and it appears to be a general opinion in business and engineering circles that the tide has turned in this respect. This will undoubtedly be reflected in an increased number of young men again entering the engineering professions.

In a graduating class of 84 this session, representative of all departments, I am pleased to report that there has been a prompt and very good absorption into professional and business life. I learn, however, that there has been some

difficulty in graduates obtaining appropriate types of employment, so much so that an increased number have gone to the United States not only for this purpose but because of very much greater remuneration than they can secure at the present time in Canada. This is very much to be regretted, especially at this time when there are some signs of increasing prosperity at home. In many instances that have come to my knowledge graduates who have thus been attracted away from Canada have gone with much reluctance but in the hope that in due time they will return when opportunities offer here.

One cannot refrain from expressing regret that highly trained graduates from this university, among them some of the best young men, who have been educated at considerable expense to the Province, should be lost to Canada even temporarily, when there is such great need to keep them for ourselves. In this connection I must again observe that in my opinion there is a pressing necessity for the organisation of a graduate employment medium in this faculty to endeavour to prevent this outflow of our best graduates. It is unfortunate that last year, just when such an organisation was beginning to obtain good results in this respect. financial considerations required the withdrawal of the appropriation which had previously been made for the purpose.

The research work carried out in this Faculty through the School of Engineering Research has again been of a high order and of very considerable practical use in the industry of the country. A separate report on this is being made, giving in some detail a description of the work carried out by members of the staff.

I wish again to report the very excellent co-operation in discipline and otherwise that has been secured between the student body and the staff. I cannot too highly commend the fine spirit of the students of this faculty in maintaining throughout the year a high standard of faculty and university morale and *esprit de corps*, and I wish to take this opportunity of expressing an appreciation of this which I am sure is shared by all members of the staff of the faculty.

It is a pleasure to report the satisfactory operation of the course in Ceramics which was inaugurated last year. It attracted considerable attention, and the Faculty was prompt to see that it could further be strengthened by extending the course over a broader basis in both the third and fourth years, an arrangement which will go into effect next session.

It is with much pleasure that the faculty can point to this session's high academic attainment. Not only have the usual faculty honours and scholarships been keenly contested for, but the percentages and the examination results are of a very high order. In addition it is noteworthy that this year's Rhodes Scholar from the university was selected from this faculty as well as the scholar to study at Oxford under the American University Scholarship and the candidate for the 1851 exhibition scholarship. The Alumni Federation also did the faculty the honour of selecting five students for the War Memorial Scholarships.

In this connection it is desirable to point out that this year's examinations and examination results were definite reflections of the high standard of the year's work. Surprise was expressed when the results were published, that the percentages of failure, especially in the third and fourth years, were much higher than heretofore. It has been difficult to assign definite reasons for this but it is well recognized that standards have been slowly raised and a premium has been placed upon diligent and thorough work on the part of the students. Upon comparing the results of this year with those of the preceding four, it has been of interest to note that since the large war years went out there has been a steady improvement, judged by examinations, of the academic attainment, and it is thought that a high standard has now been secured throughout all years of the faculty.

The new 200-ton testing machine, which has been so much needed in the

strength of materials laboratory, has now been satisfactorily installed, and with this addition this laboratory is now recognized as the best equipped in Canada.

I desire to draw attention to the crowded condition of certain laboratories, even although the attendance is reduced. This, however, has become apparent due to the increased amount and variety of research and instructional work being carried on. Particularly is this so in Mining and Chemical Engineering. It is gratifying to note that provision has been made to meet this in the case of the Mining Mill, where a preliminary appropriation has been made to enable more space to be secured.

It is with much pleasure that we acknowledge further scholarships allotted to this faculty through the Board of Governors. These will undoubtedly prove an added incentive to the students.

(4) REPORT OF THE DEAN OF THE ONTARIO COLLEGE OF EDUCATION

(Dr. W. Pakenham)

The total registration in the Ontario College of Education for 1925-26 is 7 per cent. above that of the previous session. The increase appears in the extra-mural courses and in the courses for degrees in Pedagogy. The attendance in the course for High School Assistants' Certificates decreased by 13 per cent. As the supply of high school teachers in Ontario, like the supply of public school teachers, now exceeds the demand, this decrease is not to be regretted. The registration of students from outside Ontario is now more than 11 per cent. of the total—a promising sign. The women in the High School Assistants' course, who are now about 64 per cent. of the students in that course, continue slowly but surely to increase their lead in numbers.

The remarkable progress of commercial education in Ontario has created a keen demand for teachers of commercial subjects. The College of Education will probably be called upon to provide professional courses for those teachers.

The expansion in the registration in the B.Paed. courses and in the graduate courses for the D.Paed. degree emphasizes the need of staff and equipment for research work in education.

The University Schools continue to perform well their first function as laboratories for practical work by teachers-in-training. That they are efficient schools is attested by their success in the annual examinations for scholarships, and by the long waiting-list of applicants for admission to their classes.

The School, the monthly educational journal published by the College of Education, now has a paid circulation of 7,087. Its influence upon education in Canada should be a source of much satisfaction to all interested in educational progress.

(5) REPORT OF THE DEAN OF THE FACULTY OF FORESTRY

(Dr. C. D. Howe)

The past year has been a successful one for the Faculty of Forestry. The possession of a home of our own with enlarged facilities for carrying on the work has put new life and hope into the faculty—a feeling not only evident in the staff, but reflected as well in the work of the students. We always considered the chief function of the faculty to be the producing of self-reliant men trained in good citizenship and it is very encouraging to know that the University and the Government appreciate the value of our work to the extent of furnishing us with an adequately equipped building. The meetings in connection with the

dedication exercises in January were attended by a large number of professional foresters from Canada and the United States. In fact, it was probably the largest meeting of technically trained foresters ever held on this continent. The attendance of the graduates from the Faculty was particularly gratifying, as more than one-half of them were present.

During the year Professor White produced a book upon the Ontario trees, published by the Provincial Government, which has been enthusiastically received by the public. The Government has supplied it to the schools, where it will stimulate interest in and appreciation of the value of our trees. Professor Millar has presented a comprehensive report on the farm woodlots of Ontario to the Dominion Fuel Board. Professor Dwight has made some very important contributions to the methods of estimating the growth and yield of forest stands.

The beginning of graduate work in the faculty was initiated during the past year through the receiving of a candidate for a master's degree. Several applications from prospective candidates have been received and the staff is endeavouring to make the necessary financial arrangements so they may be encouraged to engage in research work. At present the only method seems to be co-operation with the Government and private companies. While we appreciate the opportunity of carrying on such co-operative work in the forest, we realize that it is of necessity experimental and more or less "rule of thumb" in nature, without much study of fundamental causes. We are very much in need of fellowships for research work in the basic problems of tree growth under conditions such that the investigator would be freed from the pressure of quick or immediately practical results.

The work of the faculty outside the university walls is increasing. The members of the staff have given more public lectures than in any other year and requests for professional advice have been more frequent than usual. While all this is encouraging, there still remains a large and necessary field of endeavour for the faculty along the lines of public education. Too much ignorance and apathy exist in regard to the part our forests contribute to the industrial development of the country and to the necessity of keeping them in a continuously productive condition. Our forests will never be adequately protected from fire and managed on a basis of periodic cropping until the majority of the people demand these things. Within a comparatively few years progressive deterioration of our forests may go so far that the price of reconstruction will be prohibitive. Hence the supreme necessity of increasing the extra-mural work of our Faculty and all other educational institutions interested in forest conservation.

(6) REPORT OF THE DEAN OF THE FACULTY OF MUSIC

(Dr. A. S. Vogt)

During this session there were registered in the Faculty of Music exactly the same number of students as last year, namely, 63. The season's enrolment was distributed as follows: In the courses leading to the degree of Bachelor of Music: First Year, 25; Second Year, 15; Third Year, 20; and Occasional, 1. Two students registered in the courses leading to the degree of Doctor of Music.

The following series of lectures was given by members of the Faculty of Music as follows:

HEALEY WILLAN, Esq., Mus.Doc.:
January 11—"Rules of Part-writing."
January 25—"Chords of the Secondary Sevenths."
February 8—"Modulation."
February 22—"Harmonisation of Melodies."
March 8—"Counterpoint in combined Species."
March 22—"Imitation and Canon."

ERNEST MACMILLAN, Esq., B.A., Mus.Doc.:
January 8—"Plainsong."
January 22—"Sixteenth Century Polyphony."
February 5—"The German Chorale and its use in the works of J. S. Bach."
February 12—"The English Cathedral Tradition."

F. A. MOURÉ, Mus.Doc.:
January 18—"Early English Music."
February 1—"Some Historical Aspects of the 17th and 18th Centuries."
February 15—"When do the Moderns become Classics?"
March 1—"Programme Music."

H. A. FRICKER, Esq., M.A., Mus.Doc.:
January 15—, January 29— "The Form and Composition of Choral Music."
February 19—, February 26— "The Orchestration of Choral Music."

A special series of lectures on Acoustics was delivered by E. F. BURTON, Esq., B.A., Ph.D., as follows:
March 5—"Production and Propagation of Sound by vibrational Motion."
March 12—"Scientific Determination of Standards of Pitch."
March 15—"The Motion of Air in Organ Pipes"; "The Stationary Wave."
March 19—"The Physical Aspect of the Quality of a Musical Note."

There was again a considerable increase over the preceding year in the number of candidates for the Local Examinations of the Toronto Conservatory of Music, the enrolment for the season totalling 16,331, as compared with 15,415 for 1924-25. Entries for the year were distributed as follows: Piano, 11,035; Organ, 26; Singing, 447; Violin, 594; Violoncello, 5; Sight-Singing, 76; Theory of Music (Rudiments, History, Harmony, Counterpoint, etc.), 4,148.

The musical life of the university was much enriched during the season through the excellent series of organ recitals given in Convocation Hall by Dr. F. .A Mouré, University Organist. Dr. Mouré's programmes again revealed fine catholicity of taste, with due regard to the relative importance and significance of the various outstanding schools of organ music, classical and modern. The usual high standards of performance were maintained throughout and large audiences of students, and lovers of organ music generally, attested in a convincing manner to the warm interest felt in these recitals.

The Nine O'clock Sunday Evening Hart House Recitals fully maintained the very high standards of former seasons. It is significant of the warm appreciation of students of the splendid programmes presented that demands for tickets of admission invariably far exceeded the seating capacity of the recital hall. As in former years, the performers volunteered their services as contributions to the artistic life of the university, many of the foremost musicians of Toronto being amongst those who in this manner revealed their practical interest in the musical life of the institution.

An event of outstanding significance, reflecting greatest credit on all concerned, was a brilliant presentation of Bachs' sublime St. Matthew Passion, by a specially selected chorus, prominent soloists, and an efficient orchestra in Convocation Hall, under the masterly direction of Dr. Ernest MacMillan. This fine performance shed lustre on the musical prestige of the university and its reception by students, public and press will, it is hoped, encourage further artistic efforts of the same distinctive character.

(7) REPORT OF THE DEAN OF THE SCHOOL OF GRADUATE STUDIES

(Professor J. Playfair McMurrich)

During the session of 1925-1926 the number of students registered in the School of Graduate Studies was 330. Of these 260 were residents of the Province

of Ontario, 16 of British Columbia, 10 of Saskatchewan, 7 of Manitoba, 7 of Alberta, 5 of Nova Scotia, 1 of Prince Edward Island and 2 of Quebec. Great Britain and the overseas dominions were represented by 15 students, the United States by 4 and other foreign countries by 3. The University of Toronto was responsible for the undergraduate training of 228, 75 came from other Canadian universities, 14 from the universities of the Empire, and 12 from foreign universities. 82 held staff appointments in the University of Toronto.

The distribution of the students in the various departments, according to the subject chosen as the major subject, was as follows: Architecture, 1; Astronomy, 1; Biochemistry, 6; Biology, 11; Botany, 11; Chemical Engineering, 4; Chemistry, 29; Civil Engineering, 4; Classics, 13; Educational Theory, 2; English, 30; Food Chemistry, 3; Forestry, 1; Geology and Palaeontology, 9; German, 1; History, 14; Household Science, 4; Hygiene and Preventive Medicine, 2; Mathematics, 6; Medicine, 1; Metallurgical Engineering, 1; Mineralogy, 3; Mining Engineering, 1; Pathology and Bacteriology, 1; Pathological Chemistry, 2; Pedagogy, 54; Philosophy, 23; Physics, 22; Physiology, 6; Political Science, 24; Psychology, 11; Romance Languages, 17; Semitic Languages, 9; Surgery, 1; Zymology, 1; Special registration, 1.

The degrees sought are shown in the following table:

Candidates for the degree of Ph.D.	81
Candidates for the degree of M.A.	118
Candidates for the degree of M.D.	2
Candidates for the degree of Ch.M.	1
Candidates for the degree of M.A.Sc.	8
Candidates for the degree of M.Arch.	1
Candidates for the degree of C.E.	2
Candidates for the degree of D.Paed.	54

During the year 10 students fulfilled the requirements for the degree of Ph.D.; 60 those for the degree of M.A.; 5 those for the degree of M.A.Sc.; 1 those for the degree of M.Arch.; 2 those for Civil Engineer; and 2 those for the degree of D.Paed.

The titles of the theses submitted for the degree of Ph.D. were:

A. E. BERRY: "Viability of Pathogenic Organisms in Butter."

A. BRADY: "William Huskisson and Liberal Reform."

H. Y. CHENG: "The Oriental Immigration in Canada."

B. A. EAGLES: "Purine Metabolism; New substances in Corpuscles; Creatine in Brain and Muscle."

MISS M. A. FRITZ: "The Stratigraphy and Palaeontology of the Workman's Creek Section of the Cincinnatian Series of Ontario."

E. J. KING: "Reactions of Lactones and of Furfuran Derivatives with Aromatic Hydrocarbons in the Presence of Aluminium Chloride."

R. R. MCLAUGHLIN: "Some New Rubber Derivatives. A Study of Catalysis by Platinum Black. A Study of Ferric Chloride and Aluminium Chloride in Catalysis. An Investigation of the Deacon Process."

J. MARKOWITZ: Contributions on Carbohydrate Metabolism as influenced by Insulin."

MRS. M. ROTENBERG: "On Photo-electric conductivity of Diamond and other Fluorescent Crystals. On the Characteristic X-Rays from Light Elements."

H. G. SMITH: "Some Studies in Spectroscopy and Refractivity of Gases: Changes in the Refractivities of Excited Atoms and Molecules. On the fine Structure of the Band Spectra of Sodium, Potassium, and Sodium-Potassium Vapours. The Infra-red Spectra of Certain Elements. On the Series Spectrum of Palladium."

The open fellowships for graduate students provided for the session 1925-1926 have been renewed for the coming session by the generosity of the Canadian

Pacific Railway, the Imperial Oil Company, Sir Edward Kemp, Colonel R. W. Leonard and the Robert Simpson Company. The following students have been appointed to these fellowships, the universities from which they graduated and the departments in which they will pursue their major studies, being indicated:

Miss G. E. Barnstead, B.A., Dalhousie, English.
A. E. Birney, B.A., British Columbia, English.
C. A. King, B.A., Saskatchewan, English.
J. A. Irving, B.A., Toronto, Philosophy.
G. P. Cosgrave, B.A., Manitoba; M.A., Toronto, Psychology.
Miss A. A. Berkeley, B.A., British Columbia, Botany.
W. F. Baker, B.A., Manitoba, Geology.
The Alexander Mackenzie Fellowships have been awarded to:
Miss M. J. Phelan, B.A., Toronto, History.
H. A. Stark, B.A., Toronto, Political Science.

Appointments to other fellowships open to graduate students have been made as follows:

The James H. Richardson Research Fellowship in Anatomy: Miss H. D. Craw.

The Ellen Mickle Fellowship: D. W. Pratt.

The University of Toronto War Memorial Fellowship: Miss L. H. Cotton.

The Nipissing Mining Company Research Fellowship was held during the year by R. S. Kerr, B.A.Sc.

(8) REPORT OF THE DEAN OF THE FACULTY OF DENTISTRY

(Dr. Wallace Seccombe)

During the year a great deal of time has of necessity been spent in adjusting the departments and curriculum of the new Faculty of Dentistry to conditions within the university. The necessary changes have affected both the university and the faculty at many different points, but in every case there has been an evident desire to co-operate to the end that the new faculty might be harmoniously established and result in an improved dental course.

The Faculty of Dentistry desires to record its keen appreciation of the sympathetic interest taken by President Falconer in the organisation of the new faculty and of the great amount of time which he has given to the solution of the many problems involved.

In submitting this first annual report it may be of interest to review the trend of registration in dentistry during the last two decades and consider the number of graduates in its relation to the public need for dental service.

The average registration in first year dentistry for the ten-year period previous to the war (1904-1914) was 61, while first year registration for the year following the close of the war, session 1919-20, was 343. The abnormally heavy enrolment following the war reached its maximum in the session 1920-21, when the total registration, for all years, was 888. Since then from year to year there has been a shrinkage in the total attendance, until, in the past session, it was reduced to 326. The average first-year registration for the past five years has been 55. This number is below the ordinary requirements and would fail to meet the future public demand for dental service under normal conditions. It is to be expected that the total registration in the Faculty of Dentistry will gradually increase, though for next session, owing to the size of the graduating class this year, it is estimated that the total registration will be approximately the same as this year.

The teaching of the following subjects has been transferred to the regular

university departments: Biology and Comparative Dental Anatomy, Organic Chemistry, Inorganic Chemistry, Physiology, Pharmacy and Pharmacology. It is proposed that next session the teaching of Physics be transferred to the Department of Physics.

Dr. Andrew Hunter, of the university staff, continues as head of the Department of Biochemistry, and Dr. Watt remains in active charge of the teaching of Anatomy.

In the Department of Surgery Dr. Clarence Starr is the Professor, while Dr. Ryerson gives the lectures and clinics in Surgery and Dr. Risdon the course in Oral Surgery.

As the teaching of Chemistry was taken over by the university department, Dr. Cowling was appointed Professor of Applied Chemistry, Physics and Metallurgy, giving the dental applications following the regular courses and developing an excellent experimental course in Applied Science. Mr. Colin C. Rous, a graduate of the Faculty of Applied Science and Engineering, is assisting Dr. Cowling and acting as Secretary of the Faculty.

Dr. Willmott devotes one-half his time to teaching in the Department of Prosthesis and one-half to his duties as Secretary of the Board of Directors of the Royal College of Dental Surgeons of Ontario.

The Faculty of Dentistry suffered a very severe loss in the passing of our much esteemed confrere, Dr. R. G. McLaughlin, on December 22nd, 1925. Since his appointment to the faculty in 1916, Dr. McLaughlin had rendered most able service as Professor of Ethics and Dental Jurisprudence.

Eight members of the faculty served during the past session without remuneration, seven giving special clinics to the fifth year students and Dr. Ante his regular course of lectures in Crown and Bridge Prosthesis to the various years. Those who gave clinics were: Drs. O. S. Clappison and J. N. Stewart, of Hamilton; and Drs. A. S. Thomson, C. E. Pearson, W. B. Amy, C. E. Sutton and R. M. Box, of Toronto.

The curriculum of the first year conforms to that of first year medicine. French has been discontinued, and lectures on the relation of science to civilization added. The object has been to permit the transfer of students from medicine to dentistry and from dentistry to medicine at the end of the first year in either course, that is, of those who hold the necessary preliminary requirements.

Notice has been given that, commencing in 1927, in addition to Pass Matriculation, Honour Matriculation in the following subjects will be required for entrance to dentistry: English, Mathematics, and any one of, Latin, Greek, French, German. These requirements are similar to those of the Faculty of Medicine.

A plan of co-operation has been developed with the Toronto Department of Health to conduct in the Dental Building a school children's clinic commencing September 1926. This clinic will not only afford an opportunity for public service but will also prove of value in supplying undergraduates with clinical facilities in children's dentistry.

Thirteen young women were admitted to the Dental Nurses' course in September 1925 and were registered as "occasional" students. One member of the class discontinued in January, but the others were graduated on June 3rd, 1926, being awarded a diploma by the Royal College of Dental Surgeons of Ontario upon the recommendation of the faculty council. The course has been made more practical during the past session in the direction of dental laboratory service, and a supervisor has been in charge of the class.

A conference of dental teachers was held in this faculty from the 1st to 6th March, when eight colleges were represented by twelve teachers in all. After receiving a request from the Registrar of the University of Sydney, Australia, that a lecturer in that university be given an opportunity of studying the teaching methods in the dental prosthetic department of the University of

Toronto, it was decided to invite representatives of Canadian and American universities to be present at the same time. Professor W. E. Cummer was in charge of the conference and was assisted by Drs. Ante, Bothwell, Box, Grant and Mason. The following universities were represented at the conference: University of Sydney, Australia; McGill University; University of Montreal; Harvard University; University of Louisville; Ohio State University; University of Buffalo; University of Pittsburgh.

The conference was of much value and it was decided to hold a similar gathering annually about the end of the first semester, when the teaching methods in other branches of dentistry might be included. It is planned that the 1927 conference will extend over a two weeks' period.

The faculty library is composed of the dental departmental library of the university and the Harry R. Abbott Memorial Library, and is in charge of the faculty librarian. During the session 80 graduates in dentistry have borrowed books from the library, in many cases obtaining them by mail. During the year many valuable contributions were made to the museum.

A Dental Practitioners' Course was held from September 14th to 19th, 1926, with an attendance of 67 dentists, including 16 from the United States, 1 from Japan and 1 from Australia. The course embraced one week of intensive study of modern procedures in the various branches of dentistry. It has been decided to make this an annual course, the next one to be held from September 13th to 18th, 1926.

Extra-mural lectures were given in numerous districts throughout the Province to dental organisations, the local societies paying the travelling expenses of the teachers, and the faculty and board jointly arranging the honoraria. It is hoped that the dental extra-mural lectures during the coming year will be of great benefit and will include more of the rural and outlying districts of the Province.

There has been during the past year a marked development in the faculty consultation service. This department is of special value to practitioners in the smaller centres and doubtless results in better public dental health service. Members of the profession are invited to forward clinical histories, models, radiographs or other information concerning difficult cases in practice upon which they desire advice.

It is hoped that one of the results of the transfer of the School of Dentistry to the university will be stimulation in dental research. Through this service contact is maintained with the graduates and the faculty learns much concerning problems met with in practice meriting special study, requiring experimentation or suggesting suitable problems for research.

The undergraduate course demands most of the time and energy of the members of the faculty, but when we consider dentistry in terms of public health service we must turn our attention to the graduates engaged in actual practice.

The advances in the science and practice of dentistry have been so rapid that it is essential in the public interest that courses be arranged and provision made that practitioners may return from time to time for further study. Plans are being developed that we hope may have the effect of greatly strengthening dental graduate studies during the coming year.

A SURVEY OF RESEARCH IN THE UNIVERSITY OF TORONTO 1920-1926

A survey of the past six years of the life of the university indicates that the greatest development has lain in the movement for research, especially in the scientific departments, and that in this the university is fulfilling one of its most important functions. The new movement may be said to have begun with the

creation in 1912, through gifts from citizens, of a Medical Research Fund amounting to nearly $50,000 and the erection of the Connaught Antitoxin Laboratories through the generosity of Colonel A. E. Gooderham. In 1915-17 a special fund of $15,000 was established by the Government for the investigation of problems connected with the functional re-education of returned soldiers; also of problems in Engineering and Applied Chemistry, prior to which time teaching had constituted almost the entire work of this faculty. The greatest forward step was taken in 1920, when $60,000 was placed in their annual estimates by the Governors for scientific research. This has been continued and augmented until now it amounts to $80,000. In addition the Provincial Government has set aside annually $10,000 for the maintenance of research by Drs. Banting and Best. Also in the summer of 1925 the Banting Research Foundation, amounting to nearly $600,000, was created, chiefly through the efforts of the Chancellor, Sir William Mulock, and some Toronto gentlemen, the proceeds to be devoted to medical research in this and other universities of Canada. Grants have also been made by the Carnegie Corporation in aid of investigations in the Departments of Physics and Physiology. This survey will be confined almost entirely to the work that has been conducted by the reason of the provision of these special funds. In view of the expenditure of such large amounts of money the question is often asked as to results, and naturally so, though it cannot be too strongly emphasised that perhaps the most important is the creation of a new spirit which is only to be felt. One professor writes that "since the inception of the research fund the spirit and attitude of the departmental staff have been revolutionised." This, I believe, would be agreed to by the heads of most of the departments. Further, the discovery of a piece of scientific information, which may as often as not have been an unexpected side-issue at present seemingly of no special value, may at any time lead to greater discovery. It is, however, possible to point to tangible results, valuable professionally and in their application to industry.

The first great contribution to the life of Canada made possible by this fund has been the large number of young men and women who have been trained in research methods and prepared for a life of scientific research. The Secretary of the School of Engineering Research writes that in engineering 99 graduates have been in the employ of the School as research assistants and these positions are now being looked upon as a reward for exceptional laboratory ability and high scholarship. Another writes that in every year of the six at least 24 young men received training in methods of chemical research, and this is the most important result of the policy of the university; and a third writes "to my mind the real value of the research fund is to train young men for service in Canada." In addition to the trained body of research workers upon whom the Dominion and the Province may draw for the development of their resources and the advancement of science within our borders, there have been advances made in pure science of the highest importance. It is difficult to know when a discovery in pure science passes over the border into applied science, so obvious is it that a practical application often is the outcome of a purely scientific method and spirit. Who can estimate what Drs. Banting and Best have done for the world? And yet they were moved by a pure scientific spirit of discovery. If there had not been a physiological laboratory presided over by such a leader of scientific method as Dr. Macleod, in which they had the co-operation of other men of scientific mind and training, the present results would not have been what they are. Though it is therefore almost impossible to distinguish the line where the purely scientific departments pass over into the applied I shall first refer to the former as ordinarily defined.

In Botany studies have been made of parasitic fungi and rusts of conifers with a view to the eradication of their "intermediate hosts;" of the diseases of spruces, balsams, larch and jack-pine to which are due high losses in logging.

Studies have been made of defective pulpwood and of the red stain of jack-pine which affects greatly the value of railroad ties. These studies will prove to be of use to the Ontario Forestry Branch and to those engaged in the lumber industry. For several years also work has been done on poisonous plants which has already been recognized as of great practical value to medical men, veterinarians and stockmen.

In Zoology there have been developed co-operative investigations in relation to agriculture, animal breeding and fisheries, and "the amount of work accomplished during the last five years is easily the equivalent of that accomplished during the whole previous history of the department;" "it is certain that any one of the enterprises, as, for example, the work of the Fisheries Research Laboratory would justify the entire expenditure made for research purposes." The proper administration of fisheries, now worth in this Province alone $3,000,000, annually depends upon intimate knowledge of the biological conditions of the water, and demands thoroughgoing examination by experts as to food enemies, growth, time of sex maturity, and other factors. Most valuable work has been done in Lake Nipigon which has received recognition abroad. But it is only in its beginning and much larger funds should be made available.

In Zymology, which is the science of fermentation, for some years there has been a close study of a fundamental problem as to the oxidisation of glucose and other sugars, which has an important bearing on several phases of scientific and industrial activity, since acetone, butyl and ethyl alcohol and lactic acids are its products. In fact so important is it that Dr. Speakman of this department was at special request granted leave of absence to diagnose and correct processes in a large industrial plant, and investigations are being conducted which may have great value for Canadian industry; other results may be of value to the fish industry.

In Chemistry there have been investigations as to a method of preparing certain types of organic compounds of use not only in scientific laboratories but in chemical manufactures. Two distinct chemicals have been found present in beer wort and in a hundred fruit juices, leaf and root extracts, animals, etc., which must be added to the artificial media if results are to be obtained comparable to those of nature. These are not identical with any known vitamins but both are absolutely indispensable to the reproduction of certain races of yeast, and an attempt is being made to isolate these physiologically important substances and study their chemical constitution in the hope of opening up a new group of organic compounds of great theoretical and practical importance. Other investigations have dealt with conditions that are the source of much trouble in the equipment of the electrical furnace, and others have been conducted in order to secure reliable data on concentration changes during voltage measurements. Others again are directed to causes of the blue colour of the skies and the blue path of an intense light beam through a liquid or gas, and it has been found that this light scattering is a definite measurable property of all pure substances.

Coming to Biochemistry it is difficult for any but an expert to have much conception of the problems, but Professor Hunter has been investigating the proteins and the ferments or enzymes, which as constituents of protoplasm are responsible above all others for and necessary to the existence of life. He has thrown light upon the general chemical constitution of proteins, and in the investigation of enzymes he has arrived at results which may prove of fundamental importance showing how digestive enzymes may synthetize proteins from the products of digestion; similarly glycogen can be synthetized. His method has been of value in studying the course of gastric digestion and his results have been recognized by experts as "valuable contributions."

The grants for Geological Research have been spent on most successful expeditions to Alberta in the search for fossil dinosaurs and five new genera

and two new species have been discovered and described. These have attracted wide attention, and their actual cash value many times exceeds what was spent on them. The geology and palaeontology of the Credit river area and of a section of Georgian Bay have also been carefully investigated. Professor Coleman has continued to conduct investigations in glacial geology in the Rockies, Gaspé, Labrador and Newfoundland, and Professor Moore in the economic geology of Northern Ontario.

In Mineralogy continued investigation has shown that in Ontario there are rock formations containing pitch-blende among the oldest known on the earth's surface. One new mineral has been discovered which seems to constitute the most hopeful source of radium in Canada and attention has been called to occurrence of two other Ontario minerals, not previously known to science. There are other results also which may be later applied in the study of deposits of economic minerals.

The special research carried on in the Department of Physics during the past five or six years that has commanded the attention and won the approval of the scientific world has been chiefly in the domain of Low Temperature, Spectroscopy, Magnetism and Colloidal Solutions.

In the field of Low Temperature Research the first accomplishment was the liquefaction of helium. As this had been done in only one other laboratory in the world, namely, in Holland, it at once placed our laboratory in a unique position among those of the British Empire and of America. The second accomplishment in this field had to do with the spectrum obtainable from nitrogen solidified by liquid hydrogen or liquid helium.

A year ago a most notable discovery was made in the field of spectroscopy, namely, that of the origin of the famous green line in the spectrum of the aurora. It has been shown to have its origin in oxygen and not in nitrogen as was thought by Vegard. Physicists have been endeavouring for sixty years to obtain in laboratory experiments the green spectral line that is the chief characteristic of the auroral spectrum. This line has been obtained with oxygen under certain conditions, and was especially strong when oxygen mixed with one or other of the rare gases, helium, neon, or argon, was used. This research has stimulated much research work in the world because of the fact that it has opened the way to our learning something of the constitution and state of the upper atmosphere in regions as high as 400 miles.

In connection with investigations on the structure of atoms it has become of importance to ascertain, if possible, the exact form and structure of the molecules of hydrogen and helium, two of the simplest of the elements. By investigating the spectrum of these gases at the low temperature obtainable with liquid hydrogen and liquid helium their spectra have been so simplified that the road is almost directly open to the general solution of the problem of the structure of these molecules.

By low temperatures, gases, such as Oxygen, Nitrogen, Chlorine and Bromine, have been solidified, and as a consequence the crystal form of these simple elements when solidified has been determined, a result that is helping to a clearer conception of the molecular form of these and other substances.

In the study of Colloidal Solutions such advances have been made that Professor Burton is looked upon as a leading authority on this subject.

In order that the Department of Astronomy might share in the expeditions that were made to Australia and Mexico grants of money were assigned to Professor Chant. By the former expedition, which was made for the purpose of observing the transit of Venus, most valuable data were obtained in confirmation of the recent Einstein theory.

In Physiology researches have been conducted on carbohydrate physiology including and leading up to and following the discovery of insulin, which discovery alone has more than justified all the expenditure. There have been

other researches such as those of Dr. Fidlar dealing with the respiratory exchange of simple forms of animal life; others again on the control of respiration, the function of the nervous system and ductless glands.

In Anatomy the development of the roof of the fourth ventricle of the brain has been investigated, and while the study is not yet quite complete, it points to the necessity of a decided modification of current views as to the structure of this part of the brain. The matter is of considerable practical importance.

Other investigations have been made as to the deposition of calcium salts in animal tissues with a view to discover the conditions governing the formation of bone and of the calcification which may occur in various tissues, such as cartilage, the walls of the arteries, etc.; others again as to pathological conditions of the central nervous system.

As far back as the War the Psychological Department devoted much attention to problems of the physical and mental re-education of convalescent soldiers, and later enquiries have grown out of that. Study of muscle action led to knowledge of stereoscopic vision and characteristic eye movements in reading. Modifications in methods of teaching reading have been suggested, and the results have become part of the standard tests for aviation pilots. Further study has been made of motor functions, educational maladjustment and behaviour problems.

An investigation into the Fur Trade led to the publication by the Department of Political Economy of a variety of theses dealing with many aspects of the trade, and these have elicited widespread and most favourable appreciation expressed in letters and otherwise from those concerned in this department of trade and industry.

There can be placed to the account of the School of Engineering Research improvements in processes, in design and in engineering practice as well as investigations into underlying facts and principles. These have been embodied in six bulletins which contain 77 research papers for which there has been a wide demand from engineers and scientific workers in many countries. They cover a large range of subjects: on methods for computing the flexural strength of reinforced concrete fixtures in electrical distributing systems; windstressing in reinforced concrete chimneys; economic proportions of conduits; effect of movement of crowds on structural members of large buildings; metallurgical difficulties in cyaniding gold ores with small amounts of copper; electrolytic methods of refining nickel; chemical problems in engineering concerning materials for furnaces; the causes of change of colour in pigments; wood distillation and the constitution of cellulose, which as pulp and paper is produced in Ontario in enormous quantities. It is hoped that as a result much waste in manufacture may be eliminated. Investigations into the constitution of rubber and the nature of the change occurring in its vulcanisation have received attention in the rubber journals of England and France. A new theory of the mechanism of catalysis has been propounded which may lead to practical results in industrial processes.

Professor Haultain's work on the problem of the paths of balls in rock crushing mills has shed so much light on the subject that the exhibition of his films has been asked for in all the important mining centres of the United States, and the explanation has now been accepted.

In the Hydraulics and Thermodynamics Laboratory Professor Angus has been studying the effect of water on the dam, from which he has deduced results as to the shape of canals which were embodied in the design of the Chippawa Canal and the intake at Niagara Falls. Other researches have dealt with the best methods of constructing buildings to save heating.

The investigations conducted by Professor Parkin in the new wind-tunnel have received strong commendation and have led to the development in Canada of a series of types of aircraft adapted to Canadian conditions and requirements.

He has demonstrated that a properly designed tail leads to stability and control, and these improvements will be made use of in design of machines for exploration, forest patrol, and general commercial service.

In Electrical Engineering Professors Rosebrugh and Price have carried out both theoretical and practical researches dealing with calculations as to transmission lines and groups of lines; the theoretical results by the former were presented to the Mathematical Congress that met at Toronto two years ago. On the practical side the work has chiefly been on electrical current transformers and a new method of constructing a seconds pendulum for electric clocks.

Work has been done under Professor Anderson on illumination and especially as to the action of automobile headlights.

By the Department of Architecture a record has been made of fine old houses of Ontario which were erected in the 18th and 19th century, many of which are now in a bad state of repair but are of great architectural merit, and the design of which will be of value in the history of Canadian architecture.

Experiments have been conducted under the direction of the Committee on Experimental Research in the Faculty of Medicine covering almost every department of medical activity. In all over forty persons have been engaged in research during these years, and there is a record of over sixty researches, some of them of great importance for practical problems in medicine and surgery.

In addition to this constant research with excellent results has been carried on in the departments of Pharmacology, Pathology, Pathological Chemistry, Medicine, Surgery and other branches.

In 1917 the Connaught Laboratories and University Farm were acquired by the University through the generosity of Colonel A. E. Gooderham. The laboratories were provided primarily for the purpose of supporting research into problems of Hygiene, Preventive Medicine and Public Health, especially to provide means whereby "the incidence of and mortality from communicable diseases may be lessened."

In that year (1917) an undertaking was given by the Prime Minister of Ontario that a sum of $3,750 would be voted annually by the Legislature of the Province of Ontario for the support of this research work. In 1919 this undertaking was implemented and the Research Division of the Connaught Laboratories was established. Financial support for the work of this Division has been provided by the income from the Connaught Laboratories Research Fund, the annual grant referred to above, substantial contributions annually from the income of the operating divisions of the Connaught Laboratories and finally by a grant from the Government of Canada provided through the Department of Soldiers' Civil Re-establishment. This latter grant is made to meet the cost of laboratory work undertaken for Chest Clinic at the Christie Street Hospital, Toronto.

In a general way research undertakings of two sorts have been undertaken. First, those which have been carried on in the Connaught Laboratories and Department of Hygiene and Preventive Medicine by members of the staff of those laboratories, and secondly, co-operative investigations where the personnel of these laboratories have joined with their colleagues in other departments in programmes of research. These conjoint efforts have been liberally supported by Connaught Laboratories funds. In addition a demonstration was financed by the Connaught Laboratories to assist in the organization and development of the Students' Health Service of the University.

Since 1920 investigations have been undertaken in the Research Division of the Connaught Laboratories and in the Chest Clinic, Christie Street Hospital; a demonstration which led to the organization of the University Health Service; co-operation with the Department of Physiology in providing for research work in applied physiology (certain problems in ventilation) and in early Insulin investigations; with the Departments of Physiology and Zymology in conducting

an investigation into the question of the possible therapeutic value of tissue extracts (chiefly liver extracts) in the treatment of essential hypertension; recently in association with the Department of Pathology and Bacteriology in conducting research into certain aspects of the problem of human and bovine tuberculosis in conjunction with the National Research Council of Canada.

Within the Research Division of the Connaught Laboratories a large number of investigations in the fields of bacteriology, immunology, immunochemistry, infection and immunity, applied physiology, and biochemistry have been carried on. The subjects of tuberculosis, diphtheria, scarlet fever, vaccinia, among a great many, have received especial consideration. During the past six years two volumes of studies comprising fifty-nine papers have been published.

REPORT ON RESEARCH FOR 1925-1926

Anatomy, under direction of Professor J. P. McMurrich

Dr. McMurrich has continued his study of the anatomical works of Leonardo da Vinci, but has been prevented from completing it owing to lack of access to some of the original documents. This difficulty, it is hoped, will be overcome during the summer. He has also investigated the development of the roof of the fourth ventricle of the brain in human embryos, with special attention to the occurrence of the foramina of Magendie and Luschka.

Dr. Piersol, in collaboration with Mr. P. M. Bayne, has made a study of the development of the terminal bronchi in the lungs of human embryos of the later months of development.

Dr. Watt has continued his studies of the deposit of lime salts in various tissues and expects to carry them farther during the coming vacation.

Dr. Linell, in collaboration with Dr. Mary I. Tom, has made a histological and experimental study of the innervation of voluntary muscle in rabbits and guinea-pigs. He has also continued (with Dr. H. H. Burnham) a study of the experimental production of otitis media in rabbits and (with Dr. K. G. McKenzie) of the experimental production of papilloedema in cats. In addition he has made histological studies of a number of cases showing pathological conditions of the central nervous system, sent to this laboratory from the City Hospitals.

Dr. H. A. Cates has collected material for the investigation of the variability in the distribution of nerves to the muscles of the lower limb.

Dr. Mary I. Tom, in addition to the work done in collaboration with Dr. Linell, has carried out investigations on the differential staining of neuroglia and its application to the distinction of various types of glioma and also on a differential stain applicable to tumours of the pituitary body.

Dr. B. L. Guyatt has carried on some studies in physiological optics and has directed the construction of a model showing the arrangement of the peritoneum.

Dr. M. J. Wilson has made a study of the anatomy of the human gall-bladder.

Miss Helen Craw has investigated the arrangement and distribution of the cells of the ventral horns of the spinal cord in man and in the rabbit.

Biochemistry, under direction of Professor A. Hunter

Those engaged in research in Biochemistry have concerned themselves during 1925-26 for the most part with one phase or another of the two principal problems in which the department has long been particularly interested: (1) the structure and behaviour of proteins and (2) the action of enzymes. On several lines of investigation already mentioned in earlier reports I have merely to report progress; in other directions fresh ground has been broken. Those who have

shared in the work are mentioned below and a brief statement is made of what each has attempted or accomplished.

Professor Hunter, with the technical assistance of Miss Delamere, has made a further study of the peculiar relation between hydrogen ion concentration and the activity of the enzyme arginase. Previous results have been in general confirmed, but certain anomalies have been encountered for which a complete explanation has not yet been found.

Mr. Dauphinee has now worked out in final detail the method of arginine determination which is based upon the use of arginase. This method he has applied to the measurement of the rate at which arginine is liberated from proteins in pancreatic digestion. The results are extremely interesting and show that part of the arginine is split off with astonishing rapidity. This fact has a distinct bearing upon the question of protein structure.

Dr. Summerfeldt has attempted by means of dialysis to separate the free arginine obtained in digestion from higher arginine peptides.

Mr. Sheldon has endeavoured to ascertain whether proteins of different structure differ in respect to the optimum pH for tryptic digestion. The work has met with technical difficulties and no definite conclusion has yet been reached.

Dr. Luck has been engaged in an investigation of the general metabolism of the amino-acids. He has discovered the existence of a close relation between the power of any given amino-acid to induce hyperaminoacidemia and its specific dynamic effect upon metabolism. He has also made some interesting observations upon the diffusion of amino acids from blood to tissues.

Professor Wasteneys has directed a series of investigations, detailed below, dealing with the general topic of the relation between enzyme kinetics and protein metabolism.

Miss J. McFarlane has shown that practically all the final products of peptic digestion are primary, in that they result directly from the splitting of the protein molecule without the intervention of intermediary products, and are not further hydrolysed into simpler substances. She has also completed an investigation of the nature of the products of tryptic hydrolysis of albumin, the most striking results of which are the very small yield of proteose obtained and the absence of any indication that proteose is a stage in tryptic hydrolysis.

Miss V. Dunbar has completed her investigation of the role of metaproteins in peptic digestion of albumin. The results indicate that the older conception of the part played by acid metaprotein in peptic hydrolysis must be modified. It has been found that, in those cases where metaprotein formation has taken place prior to the addition of pepsin, the rate of hydrolysis is hindered in proportion to the amount of metaprotein formed.

Mr. A. D. Barbour has been engaged in an attempt to effect an enzymatic synthesis of glycogen. He has already completed the necessary preliminary investigation of the factors influencing hydrolysis of glycogen by muscle enzymes, and he has found indications of unexpected products whose nature he is now investigating. He has succeeded in synthesising glycogen from the products of hydrolysis in relatively small amounts.

Dr. H. Borsook has conducted an investigation on the interaction of free amino nitrogen and glucose. As a result of this interaction he finds a reduction of the free amino nitrogen which is not the result of a synthetic process and that products arise which reduce methylene blue in the absence of enzyme. He has also investigated the conditions influencing the hydrolysis of cyanic acid. In the presence of protein or peptone in slightly alkaline reaction, urea and ammonia are formed in approximately the same proportions as they exist in normal urine.

Dr. A. M. Goulding is investigating (1) the relation of the autodestruction of pepsin to its ionization, and (2) the oxidative deamination of amino acids.

Mr. D. A. MacFadyen has been comparing the optimum hydrogen ion concentration for peptic synthesis of proteins with different isoelectric points.

Biology, under direction of Professor B. A. Bensley

During the summer of 1925 field work was carried on at Lake Abitibi, Lake Nipigon, Long Lake, Lake Ontario, the Atlantic and Pacific Biological Stations, Banff and elsewhere. Following is a summary of the chief investigation undertaken or supervised by members of the staff:

W. H. Piersol, polyspermy in amphibian eggs; supervision of research in histological study; L. L. Bolton, digestive tract of Pacific salmon and other fishes.

E. M. Walker, anatomical studies of *Grylloblatta*, life history of dragonflies of genus *Somatochlora*, nymphs of *Stylurus* group of Odonate genus *Gomphus*, Odonata of New Brunswick; supervision of research in entomology; A. W. Baker, Mallophaga of Canada; Miss A. P. MacDougall, Aphiidae of British Columbia; W. E. Steenburgh, cephalic musculature of insects; R. Ozburn, ovipositor and associated musculature in *Cicadidae*.

W. H. T. Baillie, aberrant development of Wolffian duct in *Raja*, muscle types and relation to connective tissue and bone in Amphibia, in collaboration with J. W. MacArthur, experimental studies on mortality and metabolism in *Daphnia magna*.

E. H. Craigie, post-natal changes in vascularity of brain in albino rat, relation of olfactory sense to migration in sockeye salmon, sex-ratios in fishes, relation of weight to length in fishes, material and data for fisheries studies collected at Pacific Biological Station, in collaboration with J. R. Dymond, supervision of research in vertebrate zoology; H. F. Lewis, economic and distributional study of European starling in Ontario.

J. W. MacArthur, in collaboration with the Departments of Horticulture and Poultry Husbandry, Ontario Agricultural College, genetic studies of tomato with analysis of factors, linkages and mutants, nature of linkage and interaction of sex-linked genes in fowl, hereditary ptosis in fowl; in collaboration with W. H. T. Baillie, experimental studies on *Daphnia magna*.

Miss N. Ford, behaviouristic and physiological studies of *Grylloblatta*.

Ontario Fisheries Research Laboratory, under supervision of J. R. Dymond and W. J. Harkness. J. R. Dymond, fishes of Lake Abitibi, collection 1925; W. J. Harkness, development and practical culture of sturgeon; H. H. McKay, plankton of Lake Nipigon, size relations of ciscoes in Lake Ontario; J. L. Hart, growth and distribution of whitefish in Ontario; A. L. Pritchard, relation of aquatic plants to fish life in lakes Nipigon, Abitibi and Timagami; D. S. Rawson, preliminary studies of plankton.

Laboratory of the Biological Board of Canada, under supervision of A. G. Huntsman and A. H. Leim. A. H. Leim, experimental study of physical and chemical factors determining development of egg in salmon, whitefish and other fishes; G. W. Jeffers, life history of the capelin; G. L. Duff, rate of growth in the cod; H. C. White, experimental work on fish cultural methods as applied to speckled trout; Miss V. Davidson, culture media in relation to the growth of diatoms; A. W. Needler, statistical studies on abundance of commercial marine fishes; R. H. McGonigle, eggs and larvae of *Teredo*, physical conditions favourable and unfavourable to development.

Royal Ontario Museum of Zoology. In addition to economic research as outlined above, a considerable amount of original taxonomic work, chiefly on birds, amphibians, reptiles and insects collected by the field parties, has been done, or is in progress, by members of the staff, especially L. L. Snyder, E. B. Logier, and N. K. Bigelow, for museum purposes and publication.

Botany, under direction of Professor J. H. Faull

I. Cryptogamic Botany, Mycology and Pathology.
(Under the direction of Professor J. H. Faull.)

Chamberlain, G. C.

(1) Field and laboratory studies on apple scab. Practical control tests made under orchard conditions in the Niagara district during the summer of 1925 yielded excellent results.

Darker, G. D.

(2) Morphological, cultural and taxonomic studies on the "needle cast" fungi of conifers.

Several new species have been studied, and culture tests in the field have demonstrated the parasitism of certain species.

Faull, J. H.

(3) An investigation of the diseases of Jack pine. Among these "red stain" has received most attention and a correlation between age and the incidence of the disease has been established. A destructive rust is also receiving special attention.

(4) Biology, Morphology and Phylogeny of the Pucciniastrae. This primitive group of rusts has been extensively studied and many interesting results have come to hand.

(5) Biology, Morphology and Phylogeny of the Chrysomyxae.—A group of rusts parasitic on spruce.

Faull, J. H. and W. R. Watson.

(6) Fern rusts. I. The genus Milesina.

This work is now practically completed so far as immediately available material permits. A record, for the first time, of the life history of three species of this little-known genus has been worked out.

Faull, J. H. and G. D. Darker.

(7) Fern rusts. II. The genus Hyalopsora.

For the first time for any species of this genus the life history has been completely demonstrated. The species studied alternates between balsam and the oak fern and there is an amazing life cycle of four years.

Hunter, Miss L. M.

(8) The spermogonia of the Pucciniastrae.

This work is finished and a complete paper sent off for publication.

Moss, E. H.

(9) The Uredinia and the haustoria of the Pucciniastrae.

An extensive paper is now in press in the Annals of Botany.

Riley, C. G.

(10) Studies on Trametes Pini. This work has been continued, mainly in the field and at the Canada Creosoting plant in Sudbury.

II. Plant Physiology.

(Under the direction of G. H. Duff.)

Duff, G. H.

(11) The effect of alternation of generations upon the growth relations of the sporophyte.

(12) The effect upon subsequent growth relations of the intensity of certain environmental factors during the period of germination.

Duff, G. H. and H. H. Racicot.

(13) Quantitative relations in the normal plant and in plants with artificially reduced leaf area.

The experimental work of this chapter is complete and the results assembled. The work of Chap. III has suggested some new interpretations and some tests on these have been inaugurated.

III. Phanerogamic Botany, Oecology, Genetics and Plant Breeding.
(Under the direction of Professors R. B. Thomson and H. B. Sifton.)

(*a*) *Anatomy and Experimental Morphology.*

Ansley, J. W.
(14) The distribution of primary resin canals in the pines.
Hart, N. C.
(15) The origin of resin canals in the wood of the pines.
Reed, Miss E. R. L. (Exchange Lecturer, Univ. Western Australia, Perth.)
(16) The anatomy of the seedling of Araucarians.
Thomson, R. B. and Reed, Miss E. R. L.
(17) Tangential Pitting.
Thomson, R. B. and Sifton, H. B.
(18) Resin Canals of Tamarack.
(19) Wound reactions of *Sequoia*, *Abies* and *Larix*.
(20) The determination of the season of maximum response to wounding.
(21) The stimulation of resin production by chemical means.

(*b*) *Taxonomy.*

Watson, W. R.
(22) Identification of Wrangell Island Plants (Crawford Collection).
(23) Collection and identification of Rocky Mountain Flora. (In association with Dr. M. O. Malte, Chief Botanist, National Herbarium.)
(24) Collection and Identification of Ontario Flora. (Timagami, Bruce Peninsula and local.)

(*c*) *Oecology.*

Sifton, H. B.
(25) The physiology and oecology of germination.
Thomson, R. B. and Sifton, H. B.
(26) The structure of the primary wood and cortex of the root in relation to environmental factors.

(*d*) *Genetics and Plant Breeding.*

Bird, J. N.
(27) Genetics of the shape and colour in radishes, etc.
Partridge, J. A.
(28) The perennial and annual habits in crosses.
Thomson, R. B. and Partridge, J. A.
(29) A peculiar peloric Linaria.

Chemistry, under the direction of Professor Lash Miller

Twenty-seven students were engaged in research last winter under the direction of Professors of this Department.

Of these Mr. E. J. King, M.A., was awarded the degree of Doctor of Philosophy ("Cyclic Compounds Containing Oxygen, in the Friedel and Crafts' reaction"—Prof. F. B. Allan), and Miss H. Stantial and Messrs. F. M. Archibald, N. C. Cahoon, F. J. Farncomb, L. E. Gilmore, C. Q. Glassey, W. E. Graham, R. R. Rogers, H. J. Rose and W. C. Weber, the degree of Master of Arts.

The following were the subjects of research:

F. M. Archibald, B.Sc.:—The packing of fine particles.
A. H. Ballard:—Thermal conductivity of Magnesite brick.
N. C. Cahoon, B.A.:—Purification of Bios II.
N. D. Clare, B.Sc.:—Supersaturation of gases in liquids.
A. F. W. Cole:—Light scattering by chlorine gas.

J. Cryer, M.A.:—Esters in the Friedel and Crafts' reaction.
F. J. Farncomb, B.A.:—Initiation of bubbles in supersaturated solutions.
J. D. Garrard, M.A.:—Distribution of colloidal silica between two liquids.
L. E. Gilmore, B.S.A.:—Determination of nicotine by means of the hydrogen electrode.
C. Q. Glassey, B.A.:—Analysis of vapours by means of the interferometer.
A. R. Gordon, M.A., Ph.D.:—Concentration of hydrogen at the cathode during electrolysis of copper sulphate solutions.
W. E. Graham, B.Sc.:—Experimental study of carbon arcs with the photo-electric cell.
H. R. Hart, M.A.:—Thiophthalic anhydride with benzene and aluminium chloride.
W. A. Irvine:—Experimental study of the selenium cell.
C. M. Jephcott, M.A.:—Preparation of pyridine derivatives.
E. J. King, M.A.:—Cyclic compounds containing oxygen, in the Friedel and Crafts' reaction.
J. F. K. McCullough:—The effect of brightening agents on polarization in brass baths.
M. J. Mulligan, M.A.:—The electrical conductivity of glass.
L. L. Perkin:—Preparation of dust-free liquids by filtration.
R. R. Rogers, B.A.:—Gaseous conduction in carbon arcs.
H. J. Rose, B.A.:—Equilibrium between magnesium and sodium chlorides and sulphates and their solutions.
F. A. Sangster:—Comparison of the characteristics of six selenium cells.
H. des B. Sims, M.A.:—Purification of Bios I.
E. M. Sparling, M.A.:—Behaviour of Bios II with charcoal.
Miss H. Stantial, B.A.:—The action of ammonium fluoride on yeast.
C. W. Sweitzer, M.A.:—Light scattering of solutions.
W. C. Weber, B.A.:—Reaction at the cathode in solutions containing cuprous and cupric chlorides.

Food Chemistry, under direction of Professor C. C. Benson

Miss B. M. H. Keartland, M.Sc., a graduate of the University of Melbourne, Australia, has continued the study of the phosphotungstic acids and has been granted the degree of M.A. for her work in connection with optical and microscopic methods of determining their purity.

Miss R. H. Carruthers has been investigating the various methods which are used to estimate the carbon dioxide which is liberated from baking powders. This work is still in progress.

Geology, under direction of Professor W. A. Parks

Professor A. P. Coleman was engaged during the summer of 1925 in completing his examination of the Pleistocene geology of Newfoundland and Southern Labrador.

Professor W. A. Parks spent part of the summer of 1925 in securing data as to the Building Stone Industry in Great Britain and prepared a report on this subject for the Dominion Department of Mines. During the winter he prepared for publication the complete osteology of two new species of dinosaur—*Ornithomimus brevetertius* and *Dichomosaurus warreni*.

The university expedition to the west was diverted from the Red Deer river to a point in Saskatchewan where extensive excavations were made in order to explore a bog for Indian remains and the bones of Pleistocene mammals. While much material was obtained, the expedition was scarcely as successful as our previous efforts.

Professor E. S. Moore was engaged during the summer in Northern Ontario, and has prepared two reports for the Ontario Department of Mines: "The Geology of the Batchewana Area east of Lake Superior" and "The Iron Deposits in the Rush Lake Section of the Woman River Iron Range."

Professor A. MacLean worked on the structural and economic geology of the Kirkland Lake gold area.

Under the direction of Professor Parks:

Miss Madeleine Fritz was engaged in the microscopic examination of Palaeozoic Bryozoa.

Mr. R. J. Watson and Mr. L. V. Bell made a detailed examination of the fossils of the Cataract formation.

Under the direction of Professor Moore:

Mr. I. W. Jones—A study of the microscopic character of certain Alberta coals.

Mr. Leonard Telfer—The phosphate deposits of Elk valley, Alberta.

Mr. W. F. Baker—The physical and chemical character of mineral veins.

Mr. S. F. Kelly—The electric properties of ore deposits and their relation to electric prospecting.

Mr. J. E. Maynard—The origin of the banded structure in Precambrian iron formations.

Mr. P. G. Paterson—The ore deposits of the Coast Range batholith.

Mr. R. J. Watson—The geology of the clay deposits in the vicinity of Toronto.

Mineralogy, under direction of Professor T. L. Walker

During the summer of 1925 field work was carried on on the French river and along the north shore of Lake Superior, near Port Coldwell, in connection with a study of the minerals and rocks associated with the nepheline syenites of those regions; along the shores of Lake Nipigon to study the Zeolitic minerals in the basalts; in north Hastings county to study the mica-apatite association; and in the Cobalt district to make a further study of the mineral association.

In the laboratories during the term the following investigations were in progress:

1. Mr. D. E. Kerr-Lawson carried on experiments to determine possible differences in morphological and physical properties of the salts of the isotopes of lead.

2. Miss M. F. Carmichael made a study of the rate of oxidation of natural sulphides.

3. Professor A. L. Parsons and the writer jointly were engaged in the following:

(*a*) A study of the zeolitic minerals from the basalts of Lake Nipigon.

(*b*) An investigation of the minerals of the new nepheline syenite area on French river.

(*c*) A study of the mica-apatite association in Faraday township, Hastings county, Ontario.

Some of the results of this work are contained in Contributions to Canadian Mineralogy, 1926. Throughout the year Mr. H. C. Rickaby acted as Research Assistant, and to him much of the success of our research work is due.

Physics, under direction of Professor J. C. McLennan

During the session 1925-26 there were forty graduates in attendance, of these twenty-one were enrolled for graduate instruction, five for the degree of Master of Arts, and fourteen for the degree of Doctor of Philosophy.

All the members of the professoriate, as in the past, have continued to give advanced courses of instruction in theoretical Physics to graduate students, and all have either directed research workers or undertaken investigations personally. The investigations carried out during the session have been representative of a number of the different branches of Physics, but those on the analysis of spectra and on the origin of the auroral spectrum have been specially emphasised. Low temperature investigations involving the use of liquid hydrogen and liquid helium, as heretofore, continue to account for a considerable proportion of the department's activities.

Reference should be made here to the fact that, through the support given by the Honourable the Premier of Ontario and his colleagues, the rights to the Inglewood natural gas field have been secured for the Crown and the use of the university. As this gas is the richest in helium in the Empire, and as steps are being taken by the university, in co-operation with the National Research Council, the British Air Ministry, and other bodies, to establish a station for the extraction of the helium, it is expected that such a supply of this rare gas will shortly become available as will place the Cryogenic Division of our Physical Laboratory in a unique position for low temperature investigations. We hope also to make helium available for other universities in Canada, and for various co-operating bodies in Great Britain.

Acknowledgment should be made here of a donation of fifty dollars from the Bankers' Association of Toronto. This sum will be used for the purchase of prizes in books to encourage students of ability graduating in Arts to take up post-graduate research work.

The list immediately following gives a summary of various researches carried out during the session.

1. *Researches directed by Professor J. C. McLennan*

On the Origin of the Spectrum of Auroral Light, by Professor McLennan, Mr. J. H. McLeod and Mr. H. Grayson Smith.

In this investigation the conditions have been delineated that are most favourable for obtaining the auroral green line $\lambda = 5577$Å in the spectrum of oxygen. An exhaustive analysis has also been made of the spectra of oxygen, and a complete system of singlet, triplet and quintet energy levels has been worked out for oxygen atoms.

On the Zeeman Effect with the Oxygen Spectral Line $\lambda = 5577$Å, by Mr. W. C. McQuarrie.

The Zeeman effect of this spectral line is being investigated with the object of definitely determining the atomic energy levels involved in the emission of the radiation represented by it.

On the Luminescence and Phosphorescence of Solid Nitrogen, by Professor J. C. McLennan, Mr. H. J. C. Ireton and Mr. K. Thomson.

The phosphorescent spectrum has been shown to include five narrow bands of low intensity close to the one $\lambda = 5231$Å originally observed. The luminescence spectrum has also been extended in the region on the longer wave-length side of $\lambda = 5577$Å.

On the Underwater spark spectra of metals of the Palladium-Platinum Group, by Mr. Lionel Clark and Miss E. Cohen.

The absorption spectra of the vapours of the elements ruthenium and rhodium, palladium, osmium, iridium and platinum, led to the identification of the chief arc lines in the spectra of these elements.

On the Underwater spark spectra of a number of elements, by Mr. H. J. C. Ireton and Miss E. J. Allin.

This investigation led to the identification of arc lines in the spectra of the elements.

On the Conductivity of Various Metals at Low Temperature, by Professor J. C. McLennan and Mr. C. D. Niven.

The electrical conductivities of sodium, potassium, lead, cadmium, beryllium, zinc, and indium, have been investigated at various temperatures down to, and including, that of liquid helium. Films of lead have been shown to exhibit superconductivities equally as well as wires of this metal.

On the Crystal Structure of Condensed Gases and Vapours, by Professor J. C. McLennan, Mr. J. O. Wilhelm and Mr. W. Plummer.

The crystal structure of various gases and vapours solidified with liquid air or liquid hydrogen has been investigated. The list includes nitric oxide, carbon dioxide, oxygen, nitrogen, hexane, octane.

On Infra-red Spectra, by Mr. H. Grayson Smith and Miss M. E. Westman.

The Infra-red spectra in this investigation of gold, mercury, thallium, and beryllium have been photographed and the wave-lengths recorded were measured.

On the Band Spectra of Hydrogen and Helium at Low Temperatures, by Professor J. C. McLennan, Mr. H. Grayson Smith and Mr. C. A. Lea.

These spectra are being investigated at room temperature and at the temperature of liquid air, liquid hydrogen and liquid helium.

On the Absorption Spectra of the Vapours of Various Elements, by Professor J. C. McLennan, Miss E. Cohen and Mr. R. F. B. Cooley.

In this investigation various special types of electric furnaces were designed and successfully used that proved suitable for vapourizing small quantities of various precious metals, and other highly refractory ones.

On the Absorption and Emission Spectra of various metals in the Fluorite Region, by Professor J. C. McLennan and Mr. M. J. Liggett.

In this investigation the spectra of palladium, gold, cerium, neodymium, scandium and niobium were studied.

On the Vacuum Grating Spectra of a Number of the Elements, by Professor J. C. McLennan and Mr. N. S. Taylor.

This investigation included a study of the best conditions for photographing the spectra of various elements with a vacuum grating.

On the Fluorescence of a Number of Elements, by Professor J. C. McLennan and Mr. I. Walerstein.

In this investigation it was shown that under excitation by light from the mercury arc the vapours of selenium, tellurium, sulphur, and bismuth emitted fluorescent spectra not hitherto recorded.

On the Emission Spectra of Various Elements in the Lower Quartz Region, by Mr. A. B. McLay, Miss M. C. N. McDonald, and Miss E. E. Sutton.

The emission spectra of beryllium, yttrium, zirconium, niobium lanthanum, cerium, neodymium, gold, were photographed and the wave-lengths recorded were measured.

On the Structure of the Palladium Spectrum, by Professor J. C. McLennan and Mr. H. Grayson Smith.

The structure of the arc spectrum of palladium was investigated and the spectral terms involved were determined. Progress was also made in analysing the spark spectrum of palladium.

On the Structure of the Arc Spectra of Gold, Platinum and Manganese, by Professor J. C. McLennan and Mr. A. B. McLay.

In this investigation the arc spectra of the three metals—gold, platinum and manganese—were analysed. Many new multiplets were identified and the spectral terms involved in the respective spectra were determined and classified into definite spectral systems.

On the Quality and Intensity of the Radiation obtainable from the Moonless Night Sky, by Professor J. C. McLennan and Mr. W. V. Ball.

This investigation involved the photographing of the spectrum of the light received from the moonless night sky, and the measurement of the intensity of this light in three different spectral regions. It is hoped by the results to learn something of the conditions under which auroral light is produced in the upper atmosphere.

2. *Researches by Professor E. F. Burton and under his direction.*

The work done by Miss B. M. Reid in the subject of colloidal solutions had to do with the determination of the temperature at which the simplest forms of colloidal solutions—various metallic sols—automatically coagulated.

3. *Researches by Professor John Satterly.*

A continuation of the work on the variation of the viscosity of gases with temperature.

4. *Researches by Professor L. Gilchrist.*

Investigation of X-ray spectra by the method of visibility.

Formulae are derived which represent the distribution of intensity and the visibility in X-ray spectra when the analysing crystal is composed of a large number of parallel reflecting planes. In the development the primary sets of multiple reflections are taken into account and the source is not supposed to be strictly monochromatic, but to have a "width." This agrees with the visibility in the spectra obtained with calcite crystals by Bergen Davis and Stempel.

Visibility Phenomena with Interference by Multiple Reflections.

Approximate expressions have been developed for the intensity and visibility of interferende fringes for both transmitted and reflected light when any number of multiple reflections exist and the source of light is one of small width. It is also indicated that the development may be extended to X-ray spectra in which series of multiple reflections from numerous planes exist.

5. *Researches by Professor McTaggart.*

The work on the properties of small bubbles in water and in aqueous solutions is being continued.

6. *Researches by Dr. Karl Horovitz.*

Dr. Karl Horovitz, International Education Board Research Fellow, came here from the Physics Department of the University of Vienna, Austria. While with us he has been engaged on the following researches: (*a*) Experimental, on the problem of crystal structure of solidified gases and certain compounds;

(*b*) theoretical, on the problem of the electrical phenomena at surfaces. During the past year a great deal of his time has been devoted to theoretical research.

The experimental work has led to the construction of a new type of vacuum camera in which a focussing principle is used. The camera can be used without any change to temperatures down to that of liquid hydrogen, and has about three times the dispersion of the ordinary powder method camera of the same radius. It is possible to investigate with the same arrangement colloidal deposits and metal sheets.

Chlorine and bromine are under investigation; owing to some difficulties in handling these gases and to the apparently complicated crystal structures involved, the investigation is not yet completed. Iodine did not show a structure with copper or with iron radiation, apparently due to the high absorption and hence will have to be investigated by means of molybdenum and tungsten radiation.

The results of the theoretical investigations undertaken are as follows: By the use of the equilibrium conditions and the conditions of ionic exchange as a basis, new formulae for the contact potential have been developed, connecting up for the first time phenomena so different as contact and frictional electricity, the process of migration of ions through solids and liquids, absorption and the permeability of membranes, as well as that of the living cell. While the theory explains some well-known facts, new conclusions have been drawn that might be tested by experiments suggested by the author. These theoretical investigations were partially communicated in lectures delivered by Dr. Horovitz recently in the General Electric Company symposium, in Schenectady, N.Y., and in the Rockefeller Institute for Medical Research, New York City. The theory is now ready for publication and will appear together with experimental results after the completion of some further experimental study with radioactive substances.

Physiology, under direction of Professor J. J. R. Macleod

The researches in this department have been in general along the same lines as during the previous year:

(1) Professor Olmsted and Mr. J. M. Harvey are investigating the relationship of the glycogen of muscle to muscular fatigue. In doing this they have taken advantage of the fact that after prolonged action of insulin the stores of glycogen in the muscle almost disappear. They have, therefore, compared fatigue curves of the muscles of normal animals with those of insulin-treated animals. The results so far do not indicate that the actual presence of glycogen makes much difference, but it has to be remembered that glycogen may be used up as quickly as it is formed so that none may remain in the muscle. The application of this work to the Hill-Meyerhof theory of muscular contraction is apparent.

(2) Dr. Taylor has continued his investigation on the function of the parathyroid gland, and he has found that considerable disturbance of the acid base equilibrium of the organism results from the repeated injection of parathormone, the active principle of the gland recently isolated by J. B. Collip. He has confirmed his previous observations that herbivorous animals are practically immune to the effects of this hormone.

(3) Dr. J. Markowitz, in collaboration with myself, has continued an investigation of the behaviour of diabetic animals treated with insulin. Two of these animals are now surviving, 2½ years after the removal of the pancreas. They are in excellent condition but it is significant that if administration of insulin be discontinued even for one day, acute symptoms supervene, which remind one of the coma that so often is the cause of death in diabetes in man. It is of interest that one of these depancreatised animals has gone through

pregnancy, the animal remaining perfectly normal throughout, although she developed acute symptoms of hypoglycaemia the day after the pups were born. This observation, along with others made in Denmark, now firmly establish the fact that "milk fever" which is so common in milch cows is due to hypoglycaemia causing withdrawal of sugar from the maternal organism by the sudden secretion of milk. Observations of the relationship between the excretion of nitrogen and dextrose as well as of the respiratory quotient in these depancreatised animals have yielded results which seem to show that the accepted theories with regard to the derivation of sugar in diabetes in man are not correct. It is supposed at present that the only source of this sugar is protein, but our evidence strongly supports the view that it may also be fat. It may be mentioned here incidentally that this work has entailed the construction of an elaborate respiratory apparatus which is capable of yielding results which are accurate to within less than 1% of an error. The construction and manipulation of this apparatus have been in the hands of Mr. F. L. Robinson and Miss Hearn.

Dr. Markowitz has also conducted important experiments on the relationship of the liver to carbohydrate metabolism. In order to acquire the technique necessary in this work he spent some time during the winter at the Mayo Clinic, Rochester, Minn. We cannot as yet say what the outcome of this work may be but we feel confident that it will at least be conclusive, so much of the previous work in this field having been indecisive and contradictory.

(4) Mr. W. W. Simpson has collaborated with me in an investigation on the probable nature of intermediary substances which are supposed to occur in the liver and muscles in carbohydrate metabolism. No evidence for the presence of this substance has been found in the liver, but in the muscles extremely interesting results have been obtained. It has been found that the considerable quantities of glycogen which are found in muscle frozen with liquid air disappear almost entirely within 20 minutes after thawing, unaccompanied by any significant increase in phosphoric acid, or free sugar, or lactic acid. This indicates that some intermediary form of condensed carbohydrate must be produced as a first step in the break-down of glycogen and the question now arises as to whether the disappearance of sugar from the blood following insulin may not depend on a production by this polysaccharide. Mr. Simpson is a student of the National Research Council at Ottawa.

(5) Mr. I. L. Chaikoff has been investigating, with Mr. Orr and Mr. Barbour of the insulin committee laboratories, the behaviour of glycogen in the liver and muscles of standardized white rats injected with insulin. Working with this material it has been possible to show that the immediate effect of insulin is to cause a decrease in glycogen deposition in the liver with no significant change in the muscles. It seems likely as a practical outcome of this investigation that it will be possible to use white rats for the accurate pharmacological assay of insulin.

(6) Dr. E. Fidlar has been engaged in devising a method for the precise measurement of the percentage of oxygen in air. This has entailed the construction of a very elaborate piece of apparatus with which it is now possible to carry out the analyses with greater accuracy than has hitherto been the case.

(7) An investigation has also been undertaken in the department for the Hydro-Electric Commission on the cause of death from electrocution and the possibility of developing methods of resuscitation which would be more certain than those at present in vogue. Dr. Urquhart has been in charge of this investigation and has been assisted by Mr. D. J. Bowie, who has made microscopic examination of the brain in the fatal cases. Mr. Bowie has also continued with his investigation of the structure of the islet tissue.

(8) During the year two Rockefeller Fellows have spent some time in the department—Dr. Titso of Dorpat and Dr. Supniewski of Warsaw. Both these gentlemen worked on problems connected with insulin and obtained results

which are being published. Drs. Ernst and Assodi of Budapest, also sent here under the auspices of the Rockefeller Foundation, made some interesting observations on the relationship between the pancreas and the thyroid glands.

(9) During the summer and autumn the facilities of the laboratory were extended to Dr. W. J. Macdonald of St. Catharines to investigate on laboratory animals the physiological effects produced by extracts of liver which he had found in clinical practice to be beneficial in reducing blood pressure in cases of essential hypertension. With the assistance of Dr. Burnett of the University of California and of Mr. Chaikoff and Mr. White of this department, Dr. Macdonald was able to show that these extracts could lower the blood pressure for a considerable period of time in etherised animals. This afforded a basis for the pharmacological assay of the extracts and as far as physiological evidence would warrant a conclusion it appears as if the depressor action depends only in part on the presence of histamine, the main effects being due to other substances, probably amines.

Political Economy, under the direction of Dr. Innis

1. *Fur Trade Studies Completed, 1924-25 and 1925-26,*

Dworkin, Benjamin:—"The Fur Trade of North America from 1492-1627."
Vennels, Gordon William:—"The Fur Trade of North America from 1627-1663."
Spragge, Wilfred R.:—"The Fur Trade of North America from 1663-1713."
Bowman, Arthur Cyril:—"The Fur Trade of North America from 1713-1763."
Fleming, Robert Harvey:—"The Fur Trade of North America from 1763-1821."
Black, Russell Trueman:—"The Fur Trade of North America from 1821-1869."
Booth, Arnold Kenyon:—"The Fur Trade of North America from 1869-1900."
Harris, William C.:—"The Fur Trade of North America from 1900-the present time."
Richardson, A. Lawrey A.:—"The Personnel of the Fur Trade."
Gowdy, Douglas Morrison:—"Production of Furs in North America."
Simpson, E. Howard D.:—"Sales Organisation of Fur Trade."
Littlejohn, Robert H.:—"Fur Trade of Other Countries."
Keast, Robert W.:—"Fur Farming."
Dougall, Herbert E.:—"Regulation."
Snyder, S.:—"Manufacture of Furs and Related Industries."

The above studies are in the process of being combined in one volume to be entitled "A Study of the Fur Trade, with Special Reference to Canada."

Psychology, under the direction of Professor G. S. Brett

During the session 1925-26 thirteen graduate students were enrolled, including one for the degree of Ph.D. Advanced courses of instruction were given by members of the staff and the following special investigations were carried on.

1. *Directed by Professor Bott:*

On the relation of pupillary aperture to binocular rivalry—Mr. C. N. Clark. In this research an objective means of photographically recording the introspective observations on rivalry has been perfected and six subjects have been trained. Motion picture records of pupillary changes during rivalry are being recorded.

Antagonistic subduction and superduction of the eyes in the fusing of images of a controlled field—Mr. G. G. Brown.

In this investigation the images of a controlled field received by either eye are displaced vertically by means of a special type of flexible prism prepared in our

laboratory. The inquiry aims to determine the range of ocular motor adjustment that can be learned in order to maintain fusion of the images. The results indicate that this unusual form of eye motor co-ordination is trainable.

Patterns of antagonistic muscle action of the upper extremity—Professor Bott assisted by Miss Hearn.

This research is a continuation of work previously reported. Special attention is to be given to registration of the action times of antagonistic groups to ascertain the relation between muscle action and the resultant voluntary limb movement.

Rating scale for clerical staff—Mr. S. N. F. Chant.

In co-operation with the personnel department of a Toronto firm an inquiry is being conducted on the use of a graphic rating scale as a means of observing and controlling the time losses due to interruption in office work.

Selection of taxi-cab drivers—Mr. S. N. F. Chant.

At the suggestion of a Toronto Taxi-cab Company a study is being made of the factors contributing to their drivers' accidents and an attempt made to select the best applicants. The investigation includes (1) an analysis of past accident records, (2) observation of driving conditions and practice in different sections of the city, times of day and night, seasons of the year, (3) use of psychological tests as one basis of selecting applicants. The results of the latter will be checked by comparison with the performance of experienced drivers.

2. *Directed by Professor Blatz:*

Comparison of the maze and problem-box methods of testing the learning ability of young rats—C. G. Stogdill.

Standard bred white rats from one month of age have been run by each method under carefully controlled conditions. The results indicate that these widely used methods are not of equal reliability for the measurement of learning ability in rats. When a satisfactory measure of learning ability has been determined it is proposed to investigate the inheritance of this factor by selective breeding.

Study of young delinquents—W. B. Mumford.

This study, under a Rockefeller Foundation fellowship, is being conducted with the co-operation of the Psychiatric staff of the Toronto Juvenile Court. It comprises a survey of the records upon cases examined at the Court over a period of three months and is preliminary to more intensive work upon selected cases.

3. *Directed by Professor MacPhee:*

Literature of the learning process as related to the learning of Modern Languages—Professor MacPhee, assisted by Mr. G. G. Brown, Mr. J. D. Ketchum, Miss H. Keens, Miss J. Brown.

This study has been undertaken at the request of the chairman of the Canadian Committee on Modern Languages. It involves a survey and analysis of the bibliography of the subject.

Certain members of the staff in psychology are also engaged upon researches provided for upon special funds. These problems are of a complex nature relating to the mental health of children from various angles. The following have been the main subjects of investigation this year: Behaviour problems among school-age children; grading problems in a public school and educational maladjustment of individual children in school; sleeping habits of young children; an experiment with the conference method as a means for arranging the follow-up of maladjusted cases. The latter study has been undertaken with the co-operation of workers from leading social organizations in the city.

Report of the Committee of Experimental Research—Dr. D. E. Robertson

Each year finds an increasing amount of work being done in the laboratory of the Committee of Experimental Research. We acknowledge with pleasure the debt we owe to the Department of Pathological Chemistry for loaning us the rooms we occupy.

This year there were five hundred and forty-two experiments requiring surgical operative technique. In addition there were one hundred and twenty-two autopsies on animals, and ninety specimens sectioned for microscopy.

The work of the Laboratory Assistant, Walter Cowan, is arduous, and his whole time is fully occupied. He is attaining a great degree of technical skill, and is a great factor in making experimental work possible in this laboratory.

In the past academic year the following have conducted experimental work in the laboratory. Some of the work has already been published, and other work is in preparation of publication:

Dr. Costain has continued his work on Lymphatics of the Abdomen.

Dr. W. L. Robinson—A study of the Spleen.

Dr. W. E. Gallie and Dr. J. L. McDonald—Studies in Union of Bone.

Dr. J. W. Ross—Sodium Chloride in the Treatment of Intestinal Obstruction.

Dr. Earl Shouldice—Intoxication in Intestinal Obstruction and Colon Plication.

Dr. Kenneth McKenzie—Experiments on Tendons.

Dr. Tisdale and Dr. Lake—Study of the Effect of Histamine on Blood Chlorides.

Dr. D. E. Robertson—Experimental production of Osteo Myelitis.

Dr. Cascaden—Experiments in Inflammation.

Professor Harding—Water Intoxication.

Dr. H. A. Dickson—A Study of Psoriasis.

Dr. Easson Brown—Experiments with Ethylene and Gas.

Professor W. B. Hendry—Toxaemias of Pregnancy.

For this latter research the Committee have provided a nurse, who has been occupied for full time in the obstetrical wards.

The School of Engineering Research

The School of Engineering Research has made very satisfactory progress during the past academic year. Researches of technical and scientific value have either been completed or carried to a further stage of development. The results of these investigations will appear in Bulletin No. 6, which is now in the press. The demand for reprints of papers, which have appeared in Bulletins of the School already published, has been considerable during the past year, thus indicating again the timeliness of the subjects being investigated and the value of the results obtained.

Department of Civil Engineering

Under the direction of Professor P. Gillespie (with K. W. Irwin):

The study of reinforced concrete chimneys has been continued from last year. Certain difficult design equations for wind and temperature effects have been successfully reduced to chart form, thus making the design of reinforced concrete chimneys a much less tedious operation than has heretofore been the case.

Under the direction of Professor C. R. Young (with W. B. Dunbar and E. B. Allan):

The investigation of steel transmission line towers has been continued from the previous year. The effect of the arrangement of members and of certain

dimensional proportions upon the weight of the towers has been clearly shown, and a series of diagrams indicating the conditions for minimum weight have been prepared. A series of tests have also been carried out to throw light on the proper slenderness ratio to be assumed in the design of struts in these towers. The results attained to date have been conclusive and will yield important data for the designer.

Under the direction of Professor Stewart:

The application of certain projections to the construction of general maps of Canada.

This research comprises the examination of two map projections that have been adopted for the construction of maps of the United States, with a view to determining their applicability to maps covering the ranges of latitude and longitude existing in Canada; also the development of two other allied projections, deriving formulae for the spheroid. Expressions for the scale errors in latitude, longitude, direction and area, are also derived for all four projections, by which the adaptability of each to given conditions is shown, and also a comparison instituted between them and certain other projections that have been extensively used in the past.

Under the direction of Professor T. R. Loudon (with K. B. Jackson and W. Turner):

Valuable additional information has been obtained on the effect of rivet holes in reducing the strength of tension members, using the methods of photo-elasticity. A beginning is also being made by Mr. Turner on the measurement of impact stresses in grand stands, with particular reference to the new stadium of the Toronto Baseball Club.

Department of Mining Engineering

Under the direction of Professor H. E. T. Haultain (with R. S. Kerr):

On the Effect of Slimes on the Rate of Solution of Gold and Silver in Cyanide Solution:

The work shows that the presence of fine ore particles, slimes, in thickened pulp very materially retards solution. The effects of different forms of agitation have been studied.

(with D. L. Grabill):

The work on ball mill problems has been continued. The effect of ball mill size in relation to efficiency and capacity has been fairly conclusively worked out, showing that experiments with laboratory mills can be usefully interpreted for commercial sizes.

(with D. S. Halford)

Last year's work on the heat generated in crushing rock has been repeated with greater refinement. About 90% of the energy required has been shown to appear as heat. The work shows that the actual efficiency of the best rock crushing device is probably considerably less than 5%.

Under the direction of Professor F. C. Dyer:

Work has been continued on some of the obscure physical phenomena in connection with concentration of ores by flotation, developing refinements in measuring surface tension effects.

Under the direction of Professor J. T. King (with G. B. Tribble):

The research begun two years ago, on the effect of grain size, proportions

of grain sizes, pressure, moisture and shape of cups on cupellation losses, using bone-ash as a cupel medium, has been completed. Further progress on a comparative study of losses with bone-ash, magnesite, cement and other cupel media has also been accomplished. As a result an improved cupel has been made which gives consistently lower losses than its predecessors. Papers dealing with the above will be prepared.

A successful start has been made in determining the relation between the extent of absorption and volatilisation losses. This has led to a study of the state which silver takes in these losses, whether combined with oxygen or otherwise. These researches are being carried out in the Hoskins automatically controlled electric furnace, and using definite air control. Their solution will further aid in the reduction and control of some elusive errors which cause inaccuracy in fire assaying.

Department of Mechanical Engineering

Under the direction of Professor J. H. Parkin:

During the summer of 1925 experimental work on the investigation of channel interference in wind channel testing was continued and completed. A paper giving the results and comparing experimental and theoretical interference effects is in preparation.

Late in the summer a study was undertaken of the pressure distribution over the surface of an aerofoil of USA-27 section with square tips. The distribution of pressure was measured for a monoplane and three biplane combinations. The report on this research has been prepared and will be issued shortly.

An investigation is about to be started of the aerodynamic characteristics of biplane combinations of certain modern thick section aerofoils.

Under the direction of Professor E. A. Allcut:

A research on the general characteristics of a semi-diesel oil engine has been completed. Considerable discrepancies were found between the actual and calculated exhaust gas analyses, and this matter is now being followed up with the assistance of a specially designed sampling valve. Further information in connection with the two-stroke internal combustion cycle is also being sought by means of a balanced diaphragm indicator.

A new type of oil calorimeter was designed and tested with satisfactory results, and in connection with this research a large number of experiments were made on the flow of oil through very small orifices and on the atomisation of oil under different pressures.

The effect of (*a*) varying speed, (*b*) varying cooling water temperature on a gasoline engine of the tractor type was also investigated.

Department of Architecture

Under the direction of Prof. H. H. Madill and Prof. E. R. Arthur (with W. P. Lawson):

Measured drawings and historical data of old buildings of architectural merit in Ontario.

The work of preparing records of those old houses and churches of great architectural merit in the Province of Ontario was begun this session. The field was first of all surveyed by Professor Arthur and Mr. Lawson at the beginning of the first term.

It was well known that many of the best examples were to be found on the Niagara Peninsula, particularly at Niagara-on-the-Lake and at Chippewa, Jordan and Grimsby. Mr. Lawson spent over two months measuring and

photographing those buildings selected at Niagara-on-the-Lake, of which there were a great many. While there he consulted Miss Carnochan of the museum in that village and was thus able to add to the historical information which he had himself gathered. Mr. Lawson has submitted a set of extremely accurate drawings taken from actual measurements of a wide range of houses and churches. Of these may be mentioned the Presbyterian Church, the Post Office, the Clench House and the Elliot House. In addition to the drawings of the façade, he has presented larger-scale drawings of very interesting colonial fireplaces, doorways and other details.

It may be of interest to note that already one of these houses has been demolished and another so altered as to lose its original character. As many houses, too, are falling into decay, may we be permitted to point out the urgency of this work and to express the hope that we may be able to carry on a work which we feel is of the greatest interest to the people of Ontario and to the architectural profession?

Department of Chemical Engineering

Under the direction of Professor J. W. Bain (with S. A. Rowland):

The Behaviour of Cellulose on Heating.

This research which had been carried on for the two previous sessions was continued. The recovery of the products of decomposition is a tedious operation which can be carried out only on a small scale; the rate of progressing has accordingly been slow. The presence of fructose is very doubtful, but there is another constituent in considerable quantity which has not yet been identified. During the past session attention has been directed chiefly to the recovery of a sufficient quantity of the extract and an effort to determine the substances which are contained therein.

Under the direction of Professor E. G. R. Ardagh (with E. T. W. Bailey):

A study of the properties of precipitated barium sulphate is being made.

Under the direction of Professor M. C. Boswell.

With R. R. McLaughlin—The study of the behaviour of anhydrous chlorides upon reduction in hydrogen has been continued.

With C. H. Bayley—A quantitative investigation of the reactions occurring in the formation of platinum sols in organic liquids has been carried out. Also a study of the mechanism of the formation of formaldehyde using partially reduced copper oxide has been made.

With H. M. Dilworth—The behaviour of nitrides of magnesium and iron upon treatment with hydrogen has been studied quantitatively.

With B. Shaffer—A study of the action of platinum black upon rubber has been carried out.

With A. S. Townshend—A study of the behaviour of partially reduced uranium oxide as a catalyst has been commenced.

Department of Electrical Engineering

Under the direction of Professor Rosebrugh

It seemed desirable to find means of reducing the calculation of the properties of a long transmission line or group of lines to ordinary algebra and arithmetic instead of leaving it in the form of vectors and complex quantities as commonly employed. The results obtained up to August, 1924, were presented at the International Congress of Mathematics held in Toronto. Since then I have considerably extended the scope of this treatment but have not

got it quite ready for publication. There have been no expenses connected with this study.

A study of the electrical problem referred to above led me to a result in pure physics under General Dynamics, including, for example, acoustical as well as electrical conditions. This can be expressed as a theorem covering the same conditions as are contemplated in Rayleigh's Reciprocity Theorem, but although leading to the same detailed conclusion, it states a fact not included in Rayleigh's Theorem. This also was presented at the International Mathematical Congress.

Another by-product of the study mentioned above was a theorem in Pure Mathematics obtained by studying the most general algebraic case similar to that which presented itself on the transmission line. This case of the transmission line really involved a particular case of Kronecker's Theorem in determinants, but the final result which I obtained was a theorem including not only all the facts of this theorem but of theorems of Scholtz and Faa de Bruno also, as particular cases. The outline of this was presented at the International Mathematical Congress, and the complete proof I am now preparing for publication in some suitable journal.

There has been no expenditure required in connection with the above.

For next year I propose to continue, and probably complete, the study, mentioned in the first paragraph, of the long transmission line and transmission networks. For this, however, no appropriation will be required.

Under the direction of Professor H. W. Price (with V. G. Smith).

Automatic Control of Frequency. This problem was undertaken, with the assistance of Mr. G. F. Tracy, B.A.Sc., in the hope of developing a method of automatically holding constant the alternating current frequency of generating stations, and yet automatically in such manner as not to disturb the desired division of station load between the generating units carrying the load. The work is nearing completion.

Electrically Operated Second Clock of Highest Constancy. Some years ago the writer was requested, by the former Superintendent, Mr. Graham Campbell, to arrange a permanent time service for all buildings in the university, and this has now been provided in all the larger buildings. Interest in this undertaking required a study of master clocks, including seconds-pendulum clocks of highest grade.

Certain combinations of facts noted during the above study suggested that an investigation of a theory of errors in rate might point the way to attainment of greater accuracy in measurement of time if the clock were operated electrically in a manner not employed by others. With the valued assistance of Mr. V. G. Smith, a thorough investigation was undertaken with the result that our hope appears quite possible theoretically. A clock is now being constructed, having features essential for securing the theoretical advantages. It includes an entirely new method of constructing a seconds-pendulum, a new method of designing the suspension members for mounting it, and an entirely new method of electrically operating a gravity drive or "maintenance" for the pendulum.

When completed it will be operated in our observatory by Prof. L. B. Stewart. Results cannot be reported before completion of one or two years of trial against observations of rate by astronomical methods.

Electrical Control Apparatus for Constant Temperature Rooms. This problem arose in connection with maintenance of constant temperature for electrical standards of resistance, electromotive force, etc., and in part from the need of controlling the temperature of clock rooms for clocks of maximum constancy of rate. The usual system of intermittent applications of heat under control of some form of thermostat is by no means an exact method. The writer and Mr. Smith have succeeded, after some theoretical study of conditions surrounding

the problem, in evolving a somewhat more complicated method of control, which is free of errors due to variations in outside temperature and due to sudden variations in voltage supplying the electric heaters. Apparatus for this purpose will be constructed during the next year and put into trial operation.

Synchronous Motors. These motors are becoming more and more popular and useful in industrial applications. Certain features of their design have not yet been worked out to the point where one can predict closely the results of a new design not following the proportions of present practice. We are, therefore, engaged in studying certain effects of magnetic leakage, the properties of incomplete rotor windings in salient poles, etc.

Department of Metallurgical Engineering

Under the direction of Professor G. A. Guess.

The occurrence of copper in ores that are cyanided for gold is fortunately not frequent. Its presence adds materially to the cost of treatment because cyanide dissolves some of the copper which accumulates in the stock solutions fouling them. This is because the double cyanide of copper and sodium is difficult to break up and copper is precipitated only in part by zinc. Some of the gold ores of Ontario contain appreciable amounts of copper and the outlook is that cyanidation of gold ores in the Rouyn district will be complicated by the presence of copper. No simple way was found of removing the copper and recovering the cyanide in these foul solutions. The widely-scattered information pertinent to the problem was reviewed and many experiments were carried out. The results add materially to the metallurgical information on the subject of copper in cyanide solutions. The request that this problem be made a subject of research came from a Superintendent of one of our large gold mills.

(10) PUBLICATIONS

FACULTY OF ARTS

DEPARTMENT OF ARCHAEOLOGY

Harcum, Miss C. G.—*The Romano-British Collection in the Royal Ontario Museum of Archaeology* (The American Journal of Archaeology, Vol. XXIX, July-September, 1925, pp. 274-291).

A Priceless Statue of Venus in the Royal Ontario Museum (Saturday Night, March 6, 1926, p. 5).

Reviews of:—*The Roman Toga*, by Lillian M. Wilson (The American Journal of Philology, Vol. XLVI, June-September, 1925, pp. 282-285).

Der Bronzefund von Galjûb (*Modelle eines hellenistischen Goldschmiedes*) von Albert Ippel (Journal of the Society of Oriental Research, Vol. IX, Nos. 3-4, October, 1925).

and *Roman Folkestone*, by S. E. Winbolt (The American Journal of Archaeology, Vol. XXX, No. 1, January-March, 1926, pp. 91 and 92).

McIlwraith, T. F.—*Recent Publications in Archaeology and Ethnology* (The Canadian Historical Review, Vol. VI, No. 4, December, 1925, pp. 379-387).

Windle, Bertram C. A.—*Who's Who in the Oxford Movement.*

DEPARTMENT OF BIOLOGY

Baillie, W. H. T.—*A Biological Viewpoint* (University of Toronto Medical Journal, Vol. III, No. 1, November, 1925).

Craigie, E. H.—*An Introduction to the Finer Anatomy of the Central Nervous System Based upon that of the Albino Rat*, pp. 194 (Toronto: University of Toronto Press. Philadelphia: P. Blakiston's Son & Co.).

Postnatal Changes in Vascularity in the Cerebral Cortex of the Male Albino Rat (Jour. Comp. Neur., Vol. 39, pp. 301-324).

Ford, Miss N.—*On the Behaviour of Grylloblatta* (Canadian Entomologist, Vol. LVIII, pp. 66-70).

Huntsman, A. G.—*The Development of the Maritime Fisheries* (Canadian Fisherman, Vol. XII, No. 9, pp. 293-294. Gardenvale, Que., 1925).

The Preparation of Dried Fish (Canadian Fisherman, Vol. XII, No. 12, pp. 375-378. Gardenvale, Que., 1925).

Why Are Fish Tender? (Canadian Fisherman, Vol. XIII, No. 1, p. 29. Gardenvale, Que., 1925).

Davidson, Miss V. M. and Huntsman, A. G.—*The Causation of Diatom Maxima* (Trans. Royal Society of Canada, Ser. 3, Vol. XX, No. 1, 1926).

Macdougall, Miss A. P.—*Six New Species of Macrosiphum* (Hom. Aph.) (Pacific Coast Entomologist).

An American Species of the Genus Pachypapella, Baker (Hom. Aph.) (Bulletin of the Brooklyn Entomological Society).

Duff, G. H.—*Photosynthesis: A Review of Stiles: The Assimilation of Carbon by Green Plants* (Canadian Forum, vol. 6, No. 66, 1926).

Sifton, H. B.—*The Poison Canals of Cicuta maculata* (Botanical Gazette, vol. 80, 1925).

DEPARTMENT OF CHEMISTRY

Ferguson, J. B.—*Equilibria in Systems Involving Ferrous Oxide* (Trans. Faraday Soc., XXI, No. 62, 1925).

Note on the Use of a Light Filter in Interferometry (Proc. Wash. Acad. Sci., *15*, 279, 1925).

A Magnetic Form of Ferrous Oxide (Proc. Wash. Acad. Sci., *15*, 280, 1925).

The Electrical Resistance of Refractory Materials (Canadian Chemistry and Metallurgy, *6*, 131, 1926).

Ferguson, J. B. and Ellis, O. W.—*A Photo-Micrographic Study of the Evolution and Disappearance of Gas during the Passage of Electricity through Glass* (Trans. Roy. Soc. Can., (3), *19*, 34, 1925).

Hoover, G. I. and Glassey, C. Q.—*The Interferometer Method for the Study of Systems of Two Volatile Components* (Trans. Roy. Soc. Can., (3), *19*, 35, 1925).

Martin, W. H.—*The Scattering of Light by Anisotropic Liquids* (Proc. Roy. Soc. Can., *19*, III, 36, 1925).

The Scattering of Light in One-Phase Systems—a Chapter of a book, *Colloid Chemistry, Theoretical and Applied* (Chem. Cat. Co., New York).

Martin, W. H. and Cole, A. F. W.—*The Scattering of Light in Gaseous and Liquid Chlorine* (Trans. Am. Electroch. Soc., *48*, 1926).

Mulligan, M. J.—*The Electrolysis of Soda-Lime Glass* (Trans. Roy. Soc. Can., (3), *19*, 35, 1925).

Rose, H. J.—*The System* $Na_2SO_4 - Na_2Cl_2 - Mg\ SO_4 - Mg\ Cl_2 - H_2O$ (Trans. Roy. Soc. Can., (3), *19*, 33, 1925).

DEPARTMENT OF ENGLISH

Macdonald, J. F.—*Milton and Representative Short Poems* (Oxford University Press, Toronto).

Tennyson, Browning and Representative Short Poems (Oxford University Press, Toronto).

Four Longer Poems (Oxford University Press, Toronto).

Longer English Poems: Third Series (Oxford University Press, Toronto).

DEPARTMENT OF FRENCH

Allen, Louis—*De l'Hermite et del Jougleour, A Thirteenth Century "Conte Pieux"* (Paris, 1925).

Squair, J.—*Abrégé de grammaire française* (Copp, Clark).

Will, J. S.—*Pierre de Dampmartin et le rationalisme au XVIé Siècle* (Bull. Hist. Prot., Paris).

The Mind of Anatole France (Willison's Monthly, Toronto).

Sidelights on Locarno (Proc. Ont. Ed. Ass.).

Le Rationalisme au XVI^e Siècle (Busson), (Rom. Review, N.Y.).

Joan of Arc (Paine), (Can. For.).

Poèmes de Misère et d'Allégresse (LeFranc), (Can. For.).

DEPARTMENT OF GEOLOGY

Coleman, A. P.—*The Spacing of Ice Ages and Early Pre-Cambrian Climates* (Scientific Monthly, Vol. XX, 1925).

The Magmatic Origin of the Sudbury Nickel Ores (Geological Magazine, Vol. LXIII, 1926).

The Pleistocene of Newfoundland (Journal of Geology, 1926).

Ice Ages Recent and Ancient (Macmillan & Co., 1926).

Fritz, Miss M. A.—*Stratigraphy and Palaeontology of the Workman's Creek Section of the Cincinnatian Series of Ontario* (Transactions of the Royal Society of Canada).

Moore, E. S.—*Sources of Carbon in the Pre-Cambrian Formations* (Transactions of the Royal Society of Canada, Section IV, pp. 21-26, 1925).

A Lead and Zinc Deposit in Keewatin Iron Formation (Transactions of the Canadian Institute of Mining and Metallurgy, vol. 29, 1926).

Origin of a Keweenawan Boulder Conglomerate (Abstract in Bulletin Geological Society of America, vol. 37, No. 1, 1926).

The Batchawana Area (The Thirty-Fourth Annual Report of the Ontario Department of Mines).

Langford, G. B. and Moore, E. S.—*Ontario Quartzites Available for Manufacture of Silica Brick* (Canadian Mining Journal, Vol. XLVI, p. 1110, 1925).

Parks, W. A.—*Presidential Address, B.A.A.S., Section C, Cultural Aspects in Geology* (Report of the British Association for the Advancement of Science, 1925).

The Building and Ornamental Stone Trade in Great Britain (Mines Branch, Department of Mines, 1926).

The Mineral Resources of Northern Ontario (Journal of the Royal Society of Arts, Vol. LXXIII, August, 1925).

Struthiomimus Brevetertius, a New Species of Dinosaur from the Edmonton Formation (Proceedings of the Royal Society of Canada, III Series, Vol. XIX).

The Southampton Meeting of the British Association for the Advancement of Science (University of Toronto Monthly, 1925).

DEPARTMENT OF GERMAN

Needler, G. H. and Lang, A. E.—*Ontario High School German Gramar* (Ryerson Press, Toronto, 1925).

Young, A. H.—*Trinity College* (reprinted from the Trinity University Review, June, 1925).

The Rev. John Ogilvie, D.D., a Military Chaplain at Fort Niagara and Montreal, 1759-1760. (Reprinted from the Transactions of the Ontario Historical Society.)

The Diocese of Niagara before 1875. (Reprinted from the Canadian Journal of Religious Thought, January-February, 1926.)

Department of Greek

Hutton, M.—*The Greek Point of View* (Hodder & Stoughton, July, 1925).
Robertson, J. C.—*Ontario High School Latin Reader*, in collaboration with D. A. Glassey and J. S. Bennett (Macmillan & Co.).

Department of Ancient History

Cochrane, C. M. and Wallace, W. S.—*This Canada of Ours, an Introduction to Canadian Civics* (Oxford University Press, p. 182, illustrated).

Department of Modern History

Brown, G. W.—*The Opening of the St. Lawrence to American Shipping* (The Canadian Historical Review, March, 1926).
The First St. Lawrence Deepening Scheme (Canadian Historical Association, May 18, 1926).

Department of Italian and Spanish

Buchanan, M. A.—*Culteranismo in Calderon's "La Vida es sueno"* (Homenaje a Menendez Pidal, Madrid).
Cano, Juan—*The Academic Status of Spanish* (School and Society, Vol. XX, No. 517, November, 1924).
Goggio, Emilio—*Literature and Translation in Modern Language Courses* (Modern Language Journal, December, 1925.)
Shaw, J. E.—*Review of "Leopardi" by Karl Vossler*, München: Musarion Verlag, 1923 (Modern Philology, Vol. XXIII, No. 1, August, 1925).
The "Donna Angelicata" in The Ring and the Book (The Modern Language Association of America, Vol. XLI, No. 1).
Bibliography of Italian Studies in America in Italica (Bulletin of the American Association of Teachers of Italian, Vol. II, Nos. 3 and 4; and Vol. III, Nos. 1 and 2).

Department of Mathematics

Beatty S.—*On the Factorization of Certain Functions Rational and Integral in one of several Variables* (Proc. London Math. Soc., Ser. 2, Vol. 24, pp. 339-346).
On the Rearrangement of Terms in a Complex Series (Proc. Edinburgh Math. Soc., Vol. 43, pp. 85-91).
On the Maximum Modulus of an Analytic Function (Trans. Royal Soc. of Canada, Vol. 19, Sect. III, Part 2, pp. 177-180).
Fields, J. C.—*Representation of the Branches of an Algebraic Function of Several Variables* (Trans. Roy. Can. Institute).
The Algebraic Numbers and Division (Science, June 4). Address as Chairman of Section A for the Washington meeting of the A.A.A.S., delivered at Kansas City.

Department of Mineralogy

Carmichael, Ferga—*Oxidation of Sulphides* (University of Toronto Studies, Geological Series).
Kelly, S. F.—*The Microstructure of Anthracite and Anthraxolite* (University of Toronto Studies, Geological Series).
Modern Geophysical Methods Used in Prospecting (Mining and Metallurgy, July, 1925).
Kerr-Lawson, D.—*Crystallographic and Optical Comparison of the Chlorides of Lead Isotopes* (University of Toronto Studies, Geological Series).

Parsons, A. L.—*Additional Data Concerning the Preservation of Minerals* (The American Mineralogist).

Walker, T. L.—*Minerals from the New Nepheline Syenite Area, French River, Ontario* (University of Toronto Studies, Geological Series).

Zeolites and Related Minerals from Lake Nipigon, Ontario (University of Toronto Studies, Geological Series).

Apatite, Lepidomelane and Associated Minerals from Faraday Township, Hastings County, Ontario (University of Toronto Studies, Geological Series).

Changes in the Water Level and Flotation as Forces of Erosion (University of Toronto Studies, Geological Series).

DEPARTMENT OF ORIENTAL LANGUAGES

Irwin, W. A.—*The So-called Mosaic Inscriptions of Sinai* (The New Outlook, December, 1925).

Meek, T. J.—*The Religion of the Bible*, in collaboration with others (The American Institute of Sacred Literature, Chicago).

Mercer, S. A.—*The Recovery of Forgotten Empires* (Morehouse, Wilwaukee, Wis.).

What is to be My Place in the Future of my Country? (Church House, Toronto).

Studies in the Tell-el-Amarna Letters (Journal of the Society of Oriental Research, October, 1925).

The Religion of Ikhnaton (Journal of the Society of Oriental Research, January, 1926).

A New-Found Book of Proverbs (Anglican Theological Review, January, 1926).

Statuettes of Egyptian Gods (Bulletin of the R.O.M.A., January, 1926).

Egyptian Ethics, a chapter in Professor Sneath's "Ancient Ethics" (Yale University Press).

Taylor, W. R.—*Evolution and Immortality* (Canadian Journal of Religious Thought, December, 1925).

DEPARTMENT OF PHILOSOPHY

Brett, G. S.—*The Present Status of Psychological Science in Different Countries: Canada* (Scandinavian Scientific Review, Vol. iii, No. 4).

The History of Science as a Factor in Modern Education (Transactions of the Royal Society of Canada, 1925).

Evolution and Orthodoxy (Canadian Journal of Religious Thought, April, 1926).

Review of *Traité de Psychologie* by G. Dumas (Philosophical Review, November, 1925 .

Hume, J. G.—*Educational Reforms* (Articles in Farmer's Sun, May, 1926).

Review of M. C. Otto's *Natural Law and Human Hopes* (The Globe, June 26, 1926).

DEPARTMENT OF POLITICAL ECONOMY

Bladen, V. W.—*The Potteries in the Industrial Revolution* (The Economic Journal, Economic History Supplement, January, 1926).

Ferguson, W. S.—*Effective Accounting for Retail Hardware Stores* (Hardware & Metal, February 20, 1926).

Effective Accounting for Retail Hardware Stores (Hardware in Canada, March, 1926).

Training and Efficiency—Municipal Treasurers (Western Monthly News, December, 1924).

Jackman, W. T.—*Economics of Transportation* (University of Toronto Press and A. W. Shaw Company, Chicago).

Economics of Motor Truck Transportation (Canadian Automotive Trade, January, 1926).

Railway Freight Rates and the Maritime Provinces' Problem (Financial Post, January 29, 1926).

Economic Tendencies in the Retail Distribution of Merchandise (Hardware and Metal, February 20, 1926).

The Regulation of the Motor Truck (Financial Post, June 11, 1926).

Kennedy, W. P. M.—*Associate Editor of Cambridge History of the British Empire. Baldwin Lafontaine Hincks* (New and Revised Edition with Stephen Leacock. 1925: Clarendon Press, pp. x, 350).

James, Eighth Earl of Elgin (1925: Clarendon Press, pp. xi, 375).

The Manuscript Visitation Articles and Injunctions, 1604-1715 (English Historical Review, October, 1925).

Maurice Morgann (Bulletin of Historical Research, November, 1925).

The Lemieux Act (American Economic Journal, March, 1926).

Canada and the Imperial Problem (The Outlook, May, 1926).

Sir Charles Bagot (Bulletin of Historical Research. June, 1926).

MacIver, R. M.—*The Modern State* (Oxford University Press, 1926).

DEPARTMENT OF PHYSICS

Buffam, Miss M. C. W. and Ireton, H. J. C.—*The Underwater Spark Spectra of a Number of Elements* (Trans. Roy. Soc. Can., Vol. XIX, 1925).

Burton, E. F.—*The Relation between Temperature and Minimum Sparking Potential* (Phil. Mag., January, 1926).

Burton, E. F. and Reid, Miss B. M.—*Determination of the Size of Colloidal Particles by Means of Alternating Electric Fields* (Phil. Mag., December, 1925).

Clark, L. H. G. and Cohen, Miss E.—*The Underwater Spark Spectra of the Palladium-Platinum Group of Metals* (Trans. Roy. Soc. Can., Vol. XX, 1926).

Crow, Miss Louise—*Magnetic Susceptibility of Rubidium Bromide, Caesium Iodide, Krypton and Xenon* (Trans. Roy. Soc. Can., Vol. XIX, 1925).

Gilchrist, L.—*Investigation of X-Ray Spectra by the Method of Visibility* (Proceedings of the American Physical Society, Montreal Meeting, February, 1926).

Visibility Phenomena with Interference by Multiple Reflections (Physical Review, May, 1926).

Ireton, H. J. C.—*Recent Investigations on the Auroral Spectrum* (Jl. Roy. Ast. Soc. of Canada, Vol. XIX, December, 1925).

McLennan, J. C.—*Helium in Canada* (Nature, p. 93, January 16, 1926).

McLennan, J. C. and Ireton, H. J. C.—*On the Structure of the Mercury Green Line* $\lambda = 5460.74A$ *and of the Balmer Lines of Hydrogen* (Trans. Roy. Soc. Can., Vol. XIX, 1925).

McLennan, J. C. and McLay, A. B.—*On the Series Spectrum of Gold* (Proc. Roy. Soc. London, A., Vol. 108, 1925).

Absorption Spectra of Various Elements in the Ultra-violet (Trans. Roy. Soc. Can., Vol. XIX, 1925).

On the Structure of the Arc Spectrum of Manganese (Trans. Roy. Soc. Can., Vol. XX, 1926).

On the Structure of the Arc Spectrum of Platinum (Trans. Roy. Soc. Can., Vol. XX, 1925).

McLennan, J. C. and Smith, H. G. and Peters, C. S.—*The Infra-red Spectra of Certain Elements* (Trans. Roy. Soc. Can., Vol. XIX, 1925).

McLennan, J. C. and Smith, H. G.—*On the Series Spectrum of Palladium* (Trans. Roy. Soc. Can., Vol. XX, 1926).

McLennan, J. C. and Shrum, G. M.—*On the Origin of the Auroral Green Line λ=5577A and Other Spectra Associated with Aurora Borealis* (Proc. Roy. Soc., A, vol. 108, 1925).

McLennan, J. C. and Wilhelm, J. O.—*The Crystal Structure of Carbon Idoxide* (Trans. Roy. Soc. Can., Vol. XIX, 1925).

McQuarrie, W. C.—*A Note on the Spectra of Silicon and Aluminium* (Phil. Mag., October, 1925).

Analysis of the Spectra of Thallium by Electrodeless Discharge (Trans. Roy. Soc. Can., Vol. XIX, 1925).

McTaggart, H. A.—*The Correction of Spherical Aberration* (Trans. Roy. Soc. Canada, Vol. XX, Sec. III, 1926).

Plummer, W. G.—*The Crystalline Structure of Hexachloro-benzene and Hexabromobenzene* (Philosophical Magazine, Vol. Z, pp. 1214-1220, December, 1925).

Satterly, J.—*The Latent Heat of Vapourization and its Relation to Curvature and Pressure* (Trans. Roy. Soc. Can., Vol. XX, 1926).

Note on the Velocity of Sound and its Relation to the Latent Heat of Vapourisation (Trans. Roy. Soc. Can., Vol. XX, 1926).

Satterly, J. and Tuttle, L.—*The Theory of Measurements* (Longmans, Green and Co.).

Department of Psychology

Bott, E. A.—*The Law of Orientation in Stereoscopy* (Jour. Exper. Psych., Vol. VIII, No. 4, pp. 278-296, August, 1925).

Department of Sociology

Macmillan, J. W.—*Out of Work* (Social Service Council of Canada).

FACULTY OF MEDICINE

Department of Anatomy

Linell, E. A.—*Some Important Points in the Anatomy of the Seventh Cranial Nerve* (University of Toronto Medical Journal, December, 1925).

Watt, J. C.—*The Transport and Deposition of Calcium Salts in the Body* (Medical Journal of Australia, July 18, 1925, vol. 2, No. 3, pp. 85-88).

Anomalies of the Kidney and their Clinical Significance (University of Toronto Medical Journal, Vol. 3, No. 6, pp. 228-235, April, 1926).

Department of Biochemistry

Barbour, A. D.—*The Question of the Interaction of Insulin, Muscle Tissue and Glucose* (J. Biol. Chem., 67, p. 53).

Borsook, H. and Wasteneys, H.—*The Interaction of Free Amino-nitrogen and Glucose* (Biochem. J., 19, p. 1128).

Eadie, G. S. and Hunter, A.—*The Apparent Dissociation Constants of Creatine and Creatinine* (J. Biol. Chem., 67, p. 237).

Hunter, A.—Presidential Address, *Protein Structure and Proteolysis in Some of their Recent Aspects* (Trans. Roy. Soc. Can., Vol. 19, Section V, p. 1).

Scott, D. A.—*A Further Investigation of the Chemical Properties of Insulin* (J. Biol. Chem., 65, p. 601).

Department of Medicine

Agnew, G. H.—*The Determination of Kidney Function in Private Practice* (The Canadian Medical Association Journal, XV, 778-781, 1925).

Brown, A.—*Insulin in the Treatment of Malnourished Infants*, in collaboration with Tisdall, F. F., Drake, T. G. H., and Cody, M. G.

The Carbohydrate Metabolism of the Normal Infant, in collaboration with Tisdall, F. F., Drake, T. G. H., and Cody, M. G.

The Carbohydrate Metabolism of Infants with Diarrhoea, Infections and Acute Intestinal Intoxication, in collaboration with Tisdall, F. F., Drake, T. G. H., and Cody, M. G.

The Carbohydrate Metabolism of the Marantic Infant, in collaboration with Tisdall, F. F., and Drake, T. G. H.

Elliott, J. H.—*Description of the W. A. Johnson Cabinets in the Osler Memorial Volume* (Transactions of the International Association of Medical Museums).

Tuberculosis in the Child, Preventive Role of the Open-Air School, the Summer Camp, the Preventorium (Canadian Medical Journal, Vol. XV, 1925).

The Basis of Further Anti-Tuberculosis Work in Ontario (Canadian Journal of Medicine and Surgery, July, 1925).

The Results of the Intracutaneous Tuberculin Test in an Ontario Survey of School and Pre-School Children (Tubercle, December, 1925).

Fletcher, A. A.—*The Treatment of Complications in Diabetes Mellitus* (Med. Jour. of Australia, 1925, ii, 80).

The Use of Insulin in Surgery and Obstetrics, in collaboration with Starr, F. N. G. (Surgery, Gynaecology and Obstetrics, 1926, xlii, 194).

Dihydroxyacetone Metabolism, in collaboration with Campbell, W. R., Hepburn, J., and Markowitz, J. (Proc. Soc. Pharm. and Exp. Therap., 1926, February).

Fotheringham, J. T.—*Sea Power and Western Civilisation* (Canadian Defence Quarterly, July, 1926).

Gwynn, N. B.—*The Classification of Post-operative Pulmonary Complications* (Transactions of the American Physicians, Vol. XV, pp. 1205-90, 1925: Journal of the Canadian Medical Association).

Poisoning by Inorganic and Organic Compounds (Osler-McCrae System of Medicine, 1925-6).

Massive Collapse of the Lung (International Clinics, March, 1926).

The Early Life of Sir William Osler (Memorial Volume, International Society of Medical Museums, 1926).

Briefly drawn Diagnostic Pictures of Industrial Intoxication, etc. (Journal of the Canadian Medical Association, Vol. XVI, 272-275, 1926).

Loudon, J.—*Carcinoma of Rectum Treated with Glover Serum* (Can. Jour. Med. & Surg., Vol. 58, No. 6, June, 1926).

Notes on the Isolation of the Glover Micro-organism from Blood and Tissue of Carcinomatous Cases, in collaboration with McCormack, J. M. (Jour. Cancer, Dublin, Vol. 2, No. 7, July, 1925).

Evidence in Favour of the Microbic Origin of Carcinoma, in collaboration with McCormack, J. M. (Can. Lancet, Vol. 65, No. 5, November, 1925; Can. Jour. Med. & Surg., Vol. 57, No. 11, November, 1925; Jour. Mich. State Med. Soc., Vol. 24, No. 12, December, 1925).

On the Exogenesis of Cancer, in collaboration with McCormack, J. M. (Franco-British Med. Review, London, England, June, 1926).

A Study of Rous Chicken Sarcoma No. 1, in collaboration with Glover, T. J., Scott, M. J., and McCormack, J. M. (Can. Lancet, Vol. 66, No. 2, February, 1926).

The Causation of Malignant Neoplasms, in collaboration with McCormack,

J. M. and Howard, N. J. (Med. Jour. & Record, New York City, Vol. 123, No. 9, May 5th, 1926).

The Etiology of Malignant Neoplasms, in collaboration with McCormack, J. M. and Howard, N. J. (Jour. Can. Med. Assoc., Vol. 16, No. 5, May, 1926).

MacKenzie, A. J.—*Hodgkin's Disease Primary in the Spleen* (St. Michael's Hospital Bulletin, 1926).

McPhedran, A.—*Diseases of the Bronchial Tubes.*

Diseases of the Pericardium (Osler and McCrae, Modern Revision, Vol. 4).

Epigastric Distress: Causes and Treatment (Canadian Medical Association Journal, February, 1926).

Cardiac Diseases (Canadian Medical Association Journal, June, 1926).

Brief History of the Toronto General Hospital, 1876-1926 (Manitoba Bulletin).

Then and Now (Students' Medical Journal).

Ogden, W. E.—*The Tuberculo-Complement-Fixation and Inhibitive Tests. Groups of Cases Selected from 1000 Patients on Whom Serial Tests Were Done as a Routine Measure*, in collaboration with Caulfeild, A. H. W., MacIntyre, H., and Anglin, G. C. (American Review of Tuberculosis, Vol. XI, No. 6, August, 1925).

A Review of Contacts with Cases of Open Tuberculosis, in Relation to the Tuberculo-Complement-Fixation and Inhibitive Tests, in collaboration with Caulfeild, A. H. W. (American Review of Tuberculosis, Vol. XI, No. 6, August, 1925).

Rae, C. A.—*Report of a Case of Double Acute Mastoiditis with Thrombosis of the Lateral Sinus on one side which was followed by a Lung Abscess* (University of Toronto Medical Journal, April, 1926).

Smith, D. K.—*External Irritation as a Factor in the Causation of Lupus Erythematosis.*

DEPARTMENT OF PATHOLOGICAL CHEMISTRY

Harding, V. J. and Van Wyck, H. B.—*The Use of Fluids in the Treatment of Hyperemesis Gravidarum* (Amer. Jour. of Obstet. & Gynaecology, Vol. XI, No. 1, January, 1926).

Diet in the Treatment of Pre-Eclampsia (Journ. Obstet. & Gynaecology, Brit. Emp., vol. 33, No. 1, 1926).

Harding, V. J. and Drew, A. K.—*Ketosis in Pregnancy* (Journ. of Biol. Chemistry, 1926).

Hunter, G.—*The Isolation from Blood of a Hitherto Unknown Substance, and its Bearing on Present Methods for the Estimation of Uric Acid*, in collaboration with Eagles, B. A. (Journ. of Biol. Chemistry, LXV, October, 1925).

DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY

Cleland, F. A.—*The Present Status of Radium in the Treatment of Non-Malignant Gynaecological Conditions.*

Magwood, S. J.—*Abruptis Placentae* (Journal of the Canadian Medical Association, June, 1926).

DEPARTMENT OF OPHTHALMOLOGY

Burnham, G. H.—*Epiphora and Catarrhal Affections of the Nose, with their Treatment* (The Can. Med. Assoc. Journal, November, 1925).

A Plea for the Use of the Combined Treatment in Affections other than those of the Eye (Can. Med. Assoc. Journ., February, 1926).

Hill, C. E.—*Dental Infections Producing Eye Diseases* (Royal Dental College Magazine, 1925).

Department of Otolaryngology

McCart, H.—*Tuberculous Disease of the Middle Ear* (Journal of Laryngology, July, 1925).

Wishart, D. E. S.—*Brain Tumour—Neuro-Otologic Examination in Seven Consecutive Verified Cases in the Posterior Fossa in Children* (Archives of Otolaryngology, Vol. 2, July, 1925).

Department of Pathology

Bassingthwaighte, M. F.—*A Study of a Small Anaerobe Found in the Oral Cavity.*

Bates, J. E.—*Amoebic Dysentery in Canada* (Canadian Med. Assoc. Jour., 1925).
Weil's Disease (*Spirochaetosis Icterohaemorrhagica*) (Can. Med. Ass. Jour., 1926).

Boyd, G. L. and Robinson, W. L.—*Evidence of Regeneration of Pancreas in an Insulin Treated Case of Diabetes* (Jour. Med. Research, 1925).

Brown, M. H.—*Aortitis Associated with Systemic Infections* (Jour. Med. Research, 1926).

Carscadden, W. G.—*Early reactions to simple injuries in Tissues.*

Duncan, J. R.—*Bacteriology of Leucorrhoea.*

Henry, A. T.—*Accidental Perforation of the Atlanto-occipital Membrane* (Annals of Medicine, 1926).

Holman. W. L.—*Civilization and the Microbe* (Better Health, 1925).
Bacterophage or Transmissible Bacterial Autolysis (Medical Quarterly, 1926).
An Error in Acid-Fast and Gram Staining Due to Petrolatum (Archives of Pathology, 1926).

Holman, W. L. and Krock, F. M.—*The Effect of Paraffin and Oily Substances upon Filter Candles* (Jour. of Laboratory and Clin. Med., 1926).

Holman, W. L. and Meekison, D. M.—*Gas Production by Bacterial Synergism* (Jour. of Bacteriology, 1926).

Johnstone, B. I.—*On the Pathology of Bright's Disease* (Annals of Medicine, 1926).
On the Relation of Arteriosclerosis to Bright's Disease, (University of Toronto Med. Jour., 1925).

Kastlin, G. J.—*Agranulocytic Angina.*

Klotz, Oskar—*Arteriosclerosis* (Canadian Med. Assoc. Jour. 1926).
Arterial Disease and Renal Incompetence (Canadian Med. Assoc. Jour., 1925).
The Clinico-Pathological Conference (Jour. Amer. Med. Assoc., 1926).
Some Comments upon Human Tuberculosis (Report of National Research Council, 1925).
The Development of Modern Laboratories (American Medicine, 1925).
Concerning Aneurysms (The Gordon Bell Memorial Lecture).
Concerning the Pathology of Some Arterial Diseases (Annals of Medicine, 1926).

MacLean, D. L.—*Sclerosis of the Coronary Arteries of the Heart.*

Magner, W.—*Jaundice* (St. Michael's Hospital Medical Bulletin, April, 1926).

Robinson, W. L.—*The Vascular Mechanism of the Spleen* (Amer. Ass. Path. and Bacter., 1926).

Department of Pharmacology

Henderson, V. E.—Complete Translation from the German of Meyer & Gottliebs' *Experimental Pharmacology* (J. B. Lippincott & Co., Philadelphia, 650 pages).

Henderson, V. E. and Brown, W. E.—*Experiments with Anaesthetic Gases* (J. Pharmacol., 1926.27.1).
Anaesthesia and Anaesthetics (Med. Jour. of Australia, 1925.2.88).
Experiments with Anaesthetic Gases (Anaesthesia and Analgesia, 1925.4.340).

Henderson, V. E. and Graham, R. W.—*Morphine Miosis* (J. Pharmacol., 1926. 26.469).

DEPARTMENT OF PSYCHIATRY

Farrar, C. B.—*Mental Disease in Relation to Crime* (Public Health Journal, February, 1926).

Problem of Treatment in a Modern Mental Hospital (Mental Hygiene Bulletin, March, 1926).

DEPARTMENT OF PHYSIOLOGY

Bowie, D. J.—*Pancreatic Fragments* (Trans. Roy. Soc. Canada).

Campbell, W. R., Fletcher, A. A., Hepburn, J., and Markowitz, J.—*Dihydroxyacetone Metabolism* (Jr. Biol. Chem., 1926, lxvii, 57).

Campbell, W. R. and Macleod, J. J. R.—*Insulin* (Williams & Wilkins Co., Baltimore, 1926).

Chaikoff, I. L.—*Supposed Influence of Insulin on Sugar Formation in the Liver* (Trans. Roy. Soc. Can.).

Chaikoff, I. L., Macleod, J. J. R., Markowitz, J. and Simpson, W. W.—*Observations on Depancreatised Dogs before and after the Withdrawal of Insulin* (Amer. Jr. Physiol., 1925, lxxiv, 36).

Macleod, J. J. R.—*Carbohydrate Metabolism and Insulin* (Longmans, Green & Co., London, 1926).

The Physiology of Insulin and Its Source in the Animal Body (Les Prix Nobel en 1924-1925, Stockholm, 1925).

Milk Fever (Jr. Lab. & Clin. Med., 1926, xi, 400).

Recent Work on the Control of the Respiratory Centre (Jr. Lab. & Clin. Med., 1926).

Macleod, J. J. R. and Markowitz, J.—*Further Researches on Depancreatised Animals Treated with Insulin* (Trans. Ass. Amer. Physicians, 1926).

Macleod, J. J. R. and Simpson, W. W.—*Changes Occurring in Mammalian Muscle Immediately after Death* (Proc. Soc. Biol. & Med., 1926, xxiii, 559).

Post Mortem Changes in Free-sugar, Glycogen, Phosphate and Lactic Acid in Mammalian Muscle (Trans. Roy. Soc. Canada, 1926).

Markowitz, J.—*Glyconeogenesis* (Amer. Jr. Physiol., 1925, lxxiv, 22).

The Relationship of Phosphate and Carbohydrate Metabolism. III. The Effect of Glucose on the Excretion of Phosphate in Depancreatised Dogs (Amer. Jr. Physiol.).

Markowitz, J. and Hough, H. B.—*Studies of Diastases in Depancreatised Dogs* (Amer. Jr. Physiol., 1925, lxxv, 571).

Olmsted, J. M. D.—*The Blood Sugar After Asphyxia in "Decapitate Cats" and its Relation to the Adrenal Glands* (Amer. Jr. Physiol., 1924, lxxv, 487).

The Effect of Insulin on the Rate of Disappearance of Reducing Substances in Toad's Blood at Different Temperatures after Injection of Glucose (Amer. Jr. Physiol., 1926, lxxvi, 200).

Olmsted, J. M. D. and Taylor, A. C.—*The Effect of Insulin on Decerebrate and Decapitate Cats* (Amer. Jr. Physiol., 1926, lxxvi, 69).

The Effect of Insulin on the Respiratory Exchange of Decerebrate and Decapitate Cats (Amer. Jr. Physiol.).

Olmsted, J. M. D. and Harvey, J. M.—*The Respiratory Exchange in Frogs During Muscular Exercise and After the Injection of Insulin* (Amer. Jr. Physiol.).

Simpson, W. W.—*The Effects of Asphyxia and Isletectomy in the Blood Sugar of Hyoxocephalus Ameriurus* (Amer. Jr. Physiol.).

Supniewski, J. V.—*The Influence of Insulin and Acetaldehyde Formation in the Animal Body* (Jr. Biol. Chem.).

Taylor, N. B.—*Observations Upon the Action of the Parathyroid Hormone* (Amer. Jr. Physiol., 1926, lxxvi, 221).

Tiitso, Max—*Influence of Nutritive Condition on Initial Fall in Blood Sugar after Insulin* (Proc. Soc. Expt. Biol. & Med., 1924, xxiii, 40).

The Effect of the Nutritive Condition on Sugar Tolerance (Trans. Roy. Soc. Canada).

Department of Medical Research

Banting, F. G.—*Diabetes and Insulin* (Nobel Prize Address, 1925: Swedish Medical Journal, 1925: Canadian Medical Association Journal, 1926 vol. 16, No. 3).

Suprarenal Insufficiency (Am. J. Physiol., 1926).

Lucas, G. H. W.—*Blood and Urine in Desuprarenalized Dogs* (Am. J. Physiol., 1926).

Department of Surgery

Costain, W. A.—*Lymphatic Drainage* (New York State Journal of Medicine, Vol. 26, No. 6, pp. 225-231, March 15, 1926).

Gallie, W. E. and Janes, R. M.—*Haemolytic Jaundice Associated with Splenomegaly.*

Gallie, W. E. and LeMesurier, A. B.—*Repair of Injuries of Posterior Crucial Ligament of the Knee.*

Graham, R. R.—*The Differential Diagnosis of Upper Gastro Intestinal Disease* (Journal of the Canadian Medical Association, May, 1926).

Harris, R. I.—*Acute Suppurative Arthritis in Children* (Jour. Bone and Joint Surg., Vol. 7, No. 4, p. 948).

Splenectomy for Purpura Haemorrhagica (Can. Med. Assoc. Journ., April, 1926).

McClelland, J. C.—*The Significance of Haematuria* (The Canadian Medical Journal).

Primrose, A.—*The Interpretation of Symptoms in Acute Abdominal Disease* (The Canadian Medical Association Journal, September, 1924).

Conditions of Medical Education in Canada (Proceedings of the Annual Congress on Medical Education, Medical Licensure, Public Health and Hospital, March, 1925).

The Chairman's Address—Conference on Medical Services in Canada, held at Ottawa, December, 1924 (The Canadian Medical Association Journal, March, 1925).

Massive Tumors Due to Diverticulitis of the Large Bowel (Surgery, Gynæcology and Obstetrics, June, 1925).

An Address on The Scientific Method in Medicine (The Canadian Medical Association Journal, June, 1925).

Primary Carcinoma of the Small Intestine in an Octogenarian (Annals of Surgery, September, 1925).

Tumours of the Large Bowel (The Canadian Medical Association Journal, 1925).

Starr, C. L.—*History and Examination of Patient from the Surgical Point of View* (Michigan State Medical Society Journal, 1925).

The Treatment of Tuberculous Abscess and Sinus (The Medical Journal of Australia, August 15, 1925; University of Toronto Medical Bulletin, February, 1926).

Starr, F. N. G—*Biliary Disease as Seen in General Practice* (The Canadian Medical Association Journal, XV, 922.925, 1925).

The Use of Insulin in Surgery and Obstetrics, in collaboration with Fletcher, A. A. (Surgery, Gynaecology and Obstetrics, pp. 194-195, February, 1926).

DEPARTMENT OF THERAPEUTICS

Rudolf, R. D.—*The Present Position of Therapeutics.* Presidential Address before the American Therapeutic Society (Can. Med. Ass. Jour., July, 1925).

High Blood Pressure (Can. Med. Ass. Jour., November, 1925).

Classification and Treatment of the Diarrhoeas (Can. Med. Ass. Jour., May, 1926).

Standardisation of Digitalis (Can. Med. Ass. Jour., May, 1926).

FACULTY OF APPLIED SCIENCE

DEPARTMENT OF CHEMICAL ENGINEERING

Ardagh, E. G. R.—*An Investigation of Some Properties of Phenylhydrazine and Factors Affecting Hydrazone Formation*, in collaboration with Williams, J. G. (Journal American Chemical Society, December, 1925).

An Accurate General Iodimetric Method for the Quantitative Determination of the Carbonyl Group in Organic Compounds, in collaboration with Williams, J. G. (Journal American Chemical Society, December, 1925).

Bain, J. W.—*The Effect of Heat upon Cellulose* (Transactions of the Royal Society of Canada, 1925, p. 189).

Boswell, M. C.—*On the Mechanism of the Action of Promoters in Catalysis*, in collaboration with Bayley, C. H. (Jour. of Physical Chemistry, Vol. 29, p. 679).

On the Mechanism of Catalysis by Aluminium Oxide, in collaboration with Dilworth, H. M (Journal of Physical Chemistry, vol. 29, p. 1489.

DEPARTMENT OF CIVIL ENGINEERING

Young, C. R.—*Structural Welding a Field for Research* (Canadian Machinery and Manufacturing News, August 20th, 1925).

Structural Development During 1925 (Contract Record and Engineering Review, December 30th, 1925).

Haunching as Reinforcement for Steel Beams (Canadian Engineer, December 22nd, 1925).

Revealing Strength of Welds in Shear (Canadian Machinery and Manufacturing News, March 4th, 1926).

DEPARTMENT OF MECHANICAL ENGINEERING

Allcut, E. A.—*The Influence of Varying Speed on a Petrol Engine* (The Automobile Engineer, August, 1925).

Steam Oil and Electric Power (Canadian Engineer, March 9th, 1926).

Angus, R. W.—*Waterworks Pumps and Pumping Stations*, a paper read before the Canadian Section of the American Water Works Association in March, 1926 (Canadian Engineer).

DEPARTMENT OF APPLIED MECHANICS

Loudon, T. R.—*Riveted Joints* (Canadian Engineer: The United States Journal "Contracting").

The Toronto Baseball Stadium (Canadian Engineer: Contracting).

DEPARTMENT OF METALLURGICAL ENGINEERING

Newcombe, J. A. and Bannister, C. O.—*Ancient Bronze Implements* (Nature, November 25, 1925).

Department of Geodesy and Surveying

Stewart, L. B.—*The Application of Certain Projections to the Construction of Maps of Canada* (Bulletin No. 6 of the School of Engineering Research).

A Study of Map Projections (Report of the Proceedings of the Association of Ontario Land Surveyors, February, 1926).

ONTARIO COLLEGE OF EDUCATION

Cornish, G. A.—*Junior Canadian Geography* (300 pages. J. M. Dent & Co., Toronto).

Manual on the Teaching of Geography (200 pages. Department of Education, Toronto).

Macpherson, W. E.—*Canada* (Educational Year Book, 32 pp.: New York, Macmillan & Co., 1925).

Sandiford, P.—*Paternal Occupations and Intelligence of Offspring* (School and Society, XXIII, 578, pp. 117-119)

Laws of Learning: Essays in Honour of Edward Lee Thorndike on his 25th Anniversary as Professor in Teachers College (Teachers College Record, XXVII, 6, pp. 523-531).

Changing Conceptions of Social Hygiene (Social Welfare, VIII, 7, pp. 160-61).

A Social Hygiene Booklet for Parents (Canadian Social Hygiene Council, p. 23).

British Columbia Test in the Fundamentals of Arithmetic, with Wingfield, A. H. (University of Toronto Press).

Normal School Manual in the Science of Education.

The Staff of the Ontario College of Education—*The School.* A Magazine devoted to elementary and secondary education. (Monthly, 116 pp.).

FACULTY OF FORESTRY

Dwight, F. W.—*The Use of Growth Charts in Place of Yield Tables* (Journal of Forestry, April, 1926).

Howe, C. D.—*The Forester's Purpose* (Illustrated Canadian Forest and Outdoors, August, 1925, p. 464).

Pillaging the Forest Bank (Illustrated Canadian Forest and Outdoors, September, 1925, p. 497).

How the Railways Put Down Forest Fire. (Illustrated Canadian Forest and Outdoors, September, 1925, p. 524).

Canada's New Forests extend over Steadily Widening Area (Annual Financial and Commercial Review, Mail and Empire, January 2, 1926, p. 14).

Torch Bearers (Illustrated Canadian Forest and Outdoors, January 1926, p. 5).

Forest Fire Figures (Illustrated Canadian Forest and Outdoors, April, 1926, p. 187).

Canada Has Enormous Area of Valuable Forest Lands (Christian Science Monitor, April 16, 1926, p. 60).

The Red Piper Calls for Payment (Illustrated Canadian Forest and Outdoors, May, 1926, p. 247).

White, J. H.—*The Forest Trees of Ontario, and the More Commonly Planted Foreign Trees—A Guide to Their Identification* (pp. 80, plates 32, illustrations 260. King's Printer, Parliament Buildings, Toronto).

FACULTY OF HOUSEHOLD SCIENCE

Stewart, L. K.—*Light Therapy* (a review), (Dietary Administration and Therapy (Cleveland, Ohio), July, 1925).

FACULTY OF MUSIC

Fricker, H. A.—Organ Arrangements of *Cradle Song*, op. 4, No. 3, Halfdan Kjerulf (American Organ Quarterly, July, 1922, Vol. III, No. 2, H. W. Gray Co.).

Lento (from the opera *Orpheus*), Gluck (American Organ Quarterly, vol. 6, No. 12, H. W. Gray Co.).

No. 55. Albumblatt. Wagner.

No. 57. Introduction to Act III, Tristan and Isolde. Wagner.

No. 58. Prelude from the Music-Drama Scene II, Rhinegold. Wagner.

No. 59. Träume (Dreams), A Study for Tristan and Isolde. Wagner.

No. 60. The Grail Scene from the Opera Parsifal and Finale to Act III. Wagner.

(Recital Series of Organ Transcriptions, G. Schirmer, N.Y.).

Adagietto, Minuetto and Prelude from L'Arlesienne Suite No. 1, Bizet (G. Schirmer, New York).

Suite, arranged from the Harpsichord Music of Henry Purcell (American Organ Quarterly, January, 1926, vol. 7 No. 16).

Willan, Healey—Motet: *O Trinity most blessed light* (Novello).

Choral-prelude for organ on *Puer Nobis Nascitur* (John Church Co.).

Vogt, A. S.—*Elementary Pianoforte Examination, Selected Compositions* (Whaley, Royce & Co., Ltd.).

Primary Pianoforte Examination, Technical Work (The Nordheimer Piano & Music Co., Ltd.).

Complete Book of Scales, Chords, Arpeggios, etc. (Whaley, Royce & Co., Ltd.).

FACULTY OF DENTISTRY

DEPARTMENT OF PREVENTIVE DENTISTRY

Seccombe, Wallace and Trent, Miss E. F.—*Tables of Foods and Diet Chart for Use in Dietary Studies in Dental Practice* (University of Toronto Press).

Tables of Foods Showing Quantities of Calcium, Phosphorus and Iron in an Average Serving of Food Compared with that Contained in One Glass of Milk (University of Toronto Press).

DEPARTMENT OF PUBLIC HEALTH NURSING

Russell, E. K.—*Health Teaching in Our Schools* (*The School*, November, 1925).

Emory, Miss F. H. M.—*Generalised Public Health Nursing* (Public Health Journal, November, 1925).

(11) REPORT OF THE LIBRARIAN

(W. S. Wallace, Esq., M.A.)

I beg to submit the following report on the work of the University Library for the year ending June 30, 1926.

The number of volumes added to the Library during the year has been 7,341 and the number of pamphlets 3,796. The total number of bound volumes in the Library is now 211,118, and the total number of pamphlets 73,014. It may be of interest also to note that there has been in recent years a decided increase in the number of serials and periodicals received by the Library, whether by gift, sale, or exchange, and the number of these now approximates 2,000. Together with the periodicals taken by the Canadian Institute, which have been for a number of years housed in the University Library, this constitutes, no

doubt, the largest collection of scientific and foreign language periodicals in Canada.

The statistics of the use of the Library by undergraduates, in comparison with the four previous years, are as follows:

	1921-22	1922-23	1923-24	1924-25	1925-26
Day books.....	41,928	51,513	80,172	88,068	94,143
Night books.....	18,998	20,508	31,314	34,549	38,976
Week books.....	4,792	5,715	12,316	11,727	12,327
Totals.....	65,718	77,736	123,802	134,344	145,446

These figures show, over a four-year period, an increase in the use of the University Library by undergraduates amounting to 121 per cent., or an average of over 30 per cent. per annum. There has been an increase also in the number of graduates using the Library. Whereas there were 497 names in the graduates' register in 1922-23, 607 in 1923-24, and 669 in 1924-25, there are now on the register the names of no fewer than 765 graduates of the university. These are, of course, exclusive of the names of professors and officers of the university, which are kept in a separate register. The total number of books borrowed by both professors and graduates during the past year has been 19,562, an increase of 20 per cent. over the previous year.

This striking increase in the work imposed on the members of the Library staff has not been followed by anything like a proportionate increase in the numbers of the Library staff itself. Whereas there were in 1921-22 twenty-one persons regularly employed in the Library, there are now only twenty-six persons so employed, and one of these is a half-time appointment. The break-down in health of several members of the Library staff who have been subjected to this heavy strain of work has served as a warning that the staff of the Library must be increased in order to cope with the demands being made upon it. I have therefore asked from the Board of Governors an appropriation for the purpose of employing additional assistance in the Library at such times as it is necessary. This arrangement will have the advantage of being economical, but whether it will supply the trained assistance which is essential to the efficient working of the Library remains to be seen. Should the proposed arrangement not work satisfactorily, it will be necessary for me to ask next year for a considerable increase in the regular staff of the Library.

I have to report that the Library has now received from the Library of Congress its depository set of the Library of Congress cards. The task of sorting and filing these cards, which number approximately one million, is most formidable, and with the staff at my disposal it has not been possible to make as yet much more than a beginning with the process. In this connection I have to acknowledge the kind co-operation of Dr. George H. Locke, chief Librarian of the Toronto Public Library, who has kindly offered to lend me assistance in the task of filing these cards. When the filing is completed, the set will be found to be a bibliographical tool of the greatest value, not only to the Library staff itself, but to members of the teaching staff and to the general public, since it will afford full and accurate information about a very large proportion of the books which anyone is likely to consult.

In conclusion, I have to bring to your attention the desirability of recognising in a tangible way the services of the members of the Library staff during the past year. Under a pressure of work hitherto unequalled, they have discharged their duty, and often more than their duty, with unfailing cheerfulness. For their loyal support I am myself deeply grateful, and I can only express the hope that means may be found to give them in the near future awards more commensurate with the services they are rendering to the University.

All of which is respectfully submitted.

(12) REPORT OF THE DIRECTOR OF THE DEPARTMENT OF SOCIAL SERVICE

(Professor J. A. Dale, M.A.)

The session has been unusually marked by good fortune and ill. The old quarters at 8 Queen's Park were required to make way for the Public Health Building; the good fortune was the finding of a very suitable house at 45 St. George St. I wish to record our gratitude to the Governors for their generosity in making this provision for our work. Unfortunately the dismantling of the old house had to begin before the new was ready, and class rooms were lent by the Department of Military Studies, where Colonel Lang and his staff did all they could to enable the work to be carried on without interruption. It was impossible either to transfer the staff offices or to heat them satisfactorily, and the work was carried on for some time with discomfort owing to an unfortunate spell of cold weather. Meantime Colonel LePan and his staff were making all possible speed with the new house, and the difficult time of transition was soon over. I wish to express our thanks to Colonel LePan for the consideration and skill with which our new quarters were prepared.

Our pleasure in our new home was dashed by the serious illness of Miss McGregor, who was granted leave of absence for six months. I am happy to be able to report that the end of the session finds her well on the way to complete recovery, and beginning to take up her work again with every assurance of returning in full vigour next session. We were very fortunate in finding Mrs. J. B. McGregor willing to take on the direction of field work, for which she was eminently fitted by her knowledge of the department as a graduate and by her successful social work in Toronto and elsewhere both in settlement and in case work agencies. She spared no effort to secure that the students should lose nothing of the thoroughness of their practical training. The difficulties of the department were increased later by my own enforced absence. The chief burden fell on Miss Anderson, who carried it with the unselfish devotion which is characteristic of all her work. She was prepared for the added responsibility, not only by her mastery of the details of administration, but by a keen personal interest in the welfare of the students and in the ideals of social service.

This session we have introduced a change in the field work of the first year. Instead of taking them concurrently throughout the session, we gave full time to class work up to the middle of March, giving the rest of the session entirely to field work. In this way the students come to their field work better prepared, and lose less time getting their bearings. The staff has been strengthened by the addition of Miss Fleming to take care of the instruction in Child Welfare. Miss Fleming left the staff of the Neighbourhood Workers' Association to graduate from the New York School of Social Work, and gain experience of child-caring institutions in the States. Her return to take charge of the social work of the Protestant Children's Home gave us the welcome opportunity to organise this side of our work.

For the first time we have been in a position to award scholarships. The Alumni Scholarship went to Miss H. M. Fisher, LL.B. (Alberta); the Rabbi Brickner Scholarship to Miss Falick; both students of the first year. The grant made by the Sisterhood of the Holy Blossom was awarded to Miss Helen Goldberg of the second year. All these students gained good standing and justified the confidence placed in them.

In spite of its checkered history this session has been marked by very good work; the standard both of class and field work has been high. A start has been made in classes for volunteers in both recreation and case work, which we hope to develop next session; and for a study group of alumni we had the good fortune to find a distinguished leader in Professor E. J. Urwick, of London. And we had the constant encouragement of good reports of graduates at work

not only in Toronto but in many important positions over the length of Canada and beyond.

(13) REPORT OF THE DEPARTMENT OF PUBLIC HEALTH NURSING

(Miss E. K. Russell, B.A., Director)

Probably the most significant work of the past year in this department has been the preparation for the new course which will be offered for the first time at the opening of the 1926-27 session. This offers two years of work at the university in close connection with a two-year training in bedside nursing at the Toronto General Hospital. This is only an experiment and will be tried with a very small class, but should the experiment be successful this preparation must result in giving to the public health field nurses who are much better educated and much better prepared for their work. Our present one-year course for graduate nurses will be maintained at least for a time, and must continue for the immediate future to supply as best it can the demand for public health nurses, but gradually the better training should replace our present clumsy efforts to prepare this worker. We are glad that the nature of the new work enables us to raise the entrance standard for that course to honour matriculation.

The enrolment in the session 1925-26 has again shown advance both in numbers and in the educational qualifications of the students, thirty-seven having been enrolled in the Diploma Course. This group included students from five Canadian Provinces, from five European Countries, and from New Zealand. The large group of foreign students presents an interesting feature of our work and undoubtedly their presence brings strength to the department for, with the knowledge and broader interests inevitably contributed by the presence of class mates from so many countries, it is happily impossible to maintain the narrow provincial spirit and interests that might easily be the lot of our students. We wonder if the university is receiving the full benefit that might be obtained from this group. It must not be overlooked, however, that the presence of the foreign students also lays a heavy burden upon the department, for their special difficulties and needs and demands—they will not be denied in their eagerness to acquire knowledge and experience—present a necessity for constant attention, tuition and supervision for each and every one individually These young women coming as undergraduate students cannot be compared with the foreigner who comes as a graduate student to the university, for the latter is comparatively independent by the time he seeks post-graduate work even though he be in a strange country.

With the help of our Provincial Department of Public Health we have been able to arrange a small amount of rural practice work for some members of this year's class. That is a very important step and if developed in a reasonable way should result in more adequate preparation of our students for serving the needs of the Province.

The work for the hospital pupil nurses was carried on this year continuously from September 1st until June 1st. Altogether 180 were enrolled—approximately 20 each month—through the Department of University Extension and each one received one month of instruction. This work should be continued perhaps two or three years longer, but it is our hope to help the hospital nursing schools so that soon they may themselves give this instruction concerning public health work to their pupils. For that purpose a special lecture course is being offered next year for members of the teaching staffs of the nursing schools: that will be a brief lecture course on the teaching of public health interests to pupil nurses.

The graduates of the department are absorbed very quickly into positions which are always waiting for them and there are indications already that the demand this year will be considerably larger than the supply. Five years ago

we graduated our first class, and already these graduates are at work in eight Provinces of the Dominion and in some nine or ten other countries, including a small number in the United States. It is interesting to note that in spite of very tempting offers from across the border a large majority of our graduates are working in Ontario. Nevertheless, Ontario's needs are not being supplied, and this department wishes to accept its share of responsibility for trying to meet this demand more adequately.

(14) REPORT OF THE DEPARTMENT OF UNIVERSITY EXTENSION AND PUBLICITY

(W. J. Dunlop, B.A., B.Paed.)

In university extension service no year is the same as any other year. While this year one phase of the work may be the most popular of all, next year it will probably be an entirely different form of service that will be most in demand. The public taste varies from year to year and it is necessary always to provide something new. In adult education, possibly because the courses usually do not lead to any certificate or degree, the old adage, that variety is the spice of life, is particularly appropriate.

To this, however, there is one important exception, that is, the Teachers' Course. This is, in many respects, the most important single piece of work that is done in this department, for this course offers to ambitious teachers a means by which they can attain to the highest positions in their profession. At the June Commencement sixteen of our teachers graduated with the degree of Bachelor of Arts, and this makes a total of 104 graduates in this Course in the past six years. At the present time there are in the Second, Third and Fourth Years of this Course 350 students. More than half of these attended the Teachers' Classes in Toronto and Hamilton; the others attended the Summer Session. A very important change, and one that has already made our Teachers' Course much more attractive, is the recent agreement with the Department of Education by which holders of the pass arts degree and of certain other degrees may, by taking certain additional work, secure specialist standing as teachers. Already some 70 applications for summer work in these new courses have been received. Graduates in the Teachers' Course now have the opportunity also of qualifying as inspectors of public schools, and this provision makes a special appeal to a good many men in the profession. It may be confidently predicted that the enrolment in the Teachers' Course will, on account of the two changes mentioned, rapidly increase in the next few years. In the past six years this enrolment has increased almost tenfold and this rate will be more than maintained.

The oldest form of extension service, that is, Extension Lectures, is always popular. This year 267 of these lectures were delivered: 146 outside of Toronto and 121 within the city. The centres in which organizations have taken advantage of this service are as follows: Barrie 3, Belleville 3, Blenheim 1, Brantford 4, Brighton 1, Caledonia 3, Centreville 1, Chapleau 1, Chesley 1, Dunnville 2, Elora 1, Erie 1, Freeman 1, Guelph 3, Hamilton 19, Harriston 4, Hespeler 1, Ingersoll 1, Kitchener 3, Lindsay 1, Maple 10, Marmora 6, Milton 1, Mimico 1, Niagara Falls 2, North Bay 1, Orangeville 1, Orillia 1, Oshawa 19, Pembroke 1, Peterborough 2, Port Colborne 2, Port Hope 2, Richmond Hill 1, St. Catharines 4, St. Thomas 4, Scarborough 3, Simcoe 1, Sundridge 2, Toronto 121, Trenton 2, Welland 2, Weston 1, Windsor 5, Woodstock 2. The members of the staff who gave these lectures are as follows: the Director 38, Dr. Blatz 17, Professor E. J. Pratt 17, Professor H. S. McKellar 13, Professor G. A. Cornish 11, Professor A. P. Coleman 9, Principal Hutton 8, Mr. G. G. Brown 7, Professor H. J. Davis 7, Professor R. D. Defries 7, Miss C. G. Harcum 7, Dr. Detweiler 6, Miss E. K.

Russell 6, Miss F. Emory 6, Dr. G. D. Porter 6, Mr. L. B. Pearson 5, and many others delivered one, two, three, or four lectures each. This year a record of the approximate numbers attending these lectures has been kept, and it would appear that a total of 14,600 people took advantage of this form of extension service.

In the Workers' Educational Association there have been this year, for some reason, not quite so many students. In Toronto there were 18 classes with an enrolment of 435; in Hamilton 8 classes with an enrolment of 280; in Windsor 2 classes with an enrolment of 37; in Brantford 2 classes with an enrolment of 31; in Galt one class with an enrolment of 32; a total of 815 students. Arrangements have been made to commence classes in Stratford and Woodstock and to recommence the work in Ottawa.

The total number of students in extension courses and classes this year has been 2,225, made up as follows: In the Teachers' Course, 350; in correspondence courses, 437 (Arts, 144; Upper School, 195; Middle School, 52; Commercial, 44; Forestry, 2); Tutorial Classes, 148 (English Literature, 60; Economics, 18; French, 23; Mathematics, 21; Social Service, 26); short courses, 475 (Art of the Theatre, 20; Nurses, 212; Pupil Nurses, 181; Ceramics, 11; Insurance, 51).

Of the 2,225 students enrolled 864 were men, and 1,361 women.

In response to a rather widespread demand a course in Occupational Therapy has been established for the training of aides in hospital, asylum, and private work, and already a number of applications for this course have been received. It will be a two years' course leading to a diploma.

The work in publicity has been carried on along much the same lines as during the previous year. "Commencement, 1925" was distributed to all graduates of the university, and gave them a brief summary of the university's activities during the year. A bulletin was published for the Royal Ontario Museum of Archaeology, and a second one is in process of printing. University news has been supplied to the papers of the Province and to other publications in Canada outside of the Province and in the United States. The university's exhibit at the Canadian National Exhibition was, as usual, very largely attended by visitors, a great deal of information about the university was given, and a good deal of literature was distributed. As in former years, the telescope service, once a week during the summer on the front lawn and every evening during the Canadian National Exhibition, was very largely attended. The instructors estimated that over 3,000 people took advantage of the opportunity to study stars, planets, and constellations through the university's telescopes.

Early in July the Department of Political Science requested this department to take charge of the loaning of theses that had been prepared on the Fur Trade. So great was the demand for these theses that it became necessary to mimeograph four of them, and these were sent, on request, all over Canada and the United States, to England, to Finland, to places in Russia, and to places in South America. From all these countries very grateful letters were received commending the university's enterprise in undertaking this form of work. This project was the idea of Dr. H. A. Innis, and there is no doubt that it met a very real need.

The number of inquiries from all sorts of people on all sorts of topics increased considerably during the year. It has come to be recognized that this department exists to serve the public by any means that come properly within the university's sphere, and the people of Ontario are taking advantage of the opportunity.

(15) REPORT OF THE DEPARTMENT OF MILITARY STUDIES

(Brig.-Gen. G. S. Cartwright, Director)

As requested in your letters of 10th and 15th March I have the honour to report as follows on this department for the session 1925-26.

The very sudden death of Colonel W. R. Lang on the 20th November, 1925, was a great loss to the Department of Military Studies and to the C.O.T.C. His genial manners and the unfailing courtesy which he showed to all those who came into touch with him endeared him to his classes, and at the same time he possessed the gift of making his lectures very clear and of great interest. His loss is deeply regretted by all.

2. *Enrolments.*—The numbers of Honours and Pass students enrolled in the six courses named below were:

Course	Arts	Sc.	Dent & Med.	For.	O.C.E.	Teachers'	Total
1. (General) Juniors (II Arts)	51	2	..	..	..	..	53
2. " Intermediates (III Arts)	42	2	4	..	..	..	48
3. " Seniors (IV Arts)	26	..	2	1	1	..	30
4. " Special (II, III, IV Yrs., for students unable to attend courses 2 and 3)	24	32	14	7	2	2	81
5. (Engineers)	1	11	..	..	..	..	12
6. (Medical)	..	..	17	..	..	..	17
							241

In addition to the above 83 took drill, musketry, physical training and other practical instruction with the C.O.T.C.

3. During 1924-25 the following students were successful in obtaining the certificates named:

War Office Certificate "A" Infantry....43
" " " "B" " 8
" " " "A" Engineers....15
C.A.M.C., Lieutenan 11

During the present session—1925-26—three students passed for Certificate "A", Infantry, and one for Certificate "B", Infantry, in November; and in March the following passed the practical tests and presented themselves for the written examination:

War Office Certificate "A" Infantry....55
" " " "B" " 10
" " " "A" Engineers....10

The results have not yet been received.

Six students took training with the Canadian Air Force at Camp Borden and were recommended for the 2nd Year's course. Two others have applied to be allowed to take the First Year's training during the summer of 1926.

4. The course for Engineer qualification has been continued and 10 passed the practical test and sat for the written paper for Certificate "A" Engineers held on 9th March, 1926.

5. Seventeen students took up the studies for the purpose of qualifying for A.M.C. certificates, and of these about 8 will present themselves for examination on the 15th instant.

6. The practical side of the subject of Military Studies, *i.e.*, the drill, etc., carried out in the C.O.T.C. is, as pointed out in last year's report, greatly handicapped by the lack of suitable accommodation where practical instruction can be carried out during the winter months.

(16) REPORT OF THE UNIVERSITY HEALTH SERVICE (MEN)

(Geo. D. Porter, M.B., Director)

Examinations.—All the first and second year students were examined as usual during the early part of the fall term.

Total number of first and second year men	1,230
Number of third and fourth year men voluntarily re-examined	386
Total	1,616
Re-examined by specialists	66
Making a total number of examinations of	1,682

The results of these examinations were especially good this year.

Those found fit to take the regular physical training	95.27%
Those found with some defect or disability requiring corrective or light physical training	2.26%
Those unfit for any physical training	2.13%

Re-examinations.—During the year many students came up for re-examination and advice regarding their work athletics and physical training.

Special Corrective and Supervised Classes.—During the year a number of students besides those requiring corrective exercises are enrolled in these classes owing to illness or accident. Here they carry on until again fit for the regular classes.

Dispensary Service.—Numerous calls are made by those requiring emergency treatment for accidents received on the campus and elsewhere and for advice regarding health matters. This often brings to light the existence of contagious diseases and local infections. This year one case of unsuspected diphtheria, another of scarlet fever and one of chicken pox, were detected, besides six cases of ringworm. Special care is taken to prevent any spread of skin infections among the students by sterilizing the towels and thoroughly cleaning the shower-baths, etc.

Vaccination.—Owing to an outbreak of smallpox in a neighbouring College over three hundred students who had not been vaccinated recently came in voluntarily for vaccination during the year.

Education.—A course of Emergency and First Aid lectures is given to the first year medical students, and Life Saving to all those taking the course under our swimming Instructor for the diploma of the Royal Life Saving Society.

Illness and Accidents during the year for which exemptions from Physical Training and C.O.T.C. were allowed, totalled 515:

Colds	184	Diarrhoea	7
Influenza	57	Asthma	1
Bronchitis	9	Cervical Adenitis	3
Tonsilitis	14	Hernia	1
Pharmygitis	15	Frost Bite	1
Otitis	10	Skin Diseases	28
Sinus Infections	2	Furunculosis 13	
Dental trouble	10	Ringworm 6	
Pleurisy	1	Scabies 1	
Pneumonia	1	Erysipelas 1	
Scarlatina	1	Eczema 5	
Chicken Pox	1	Herpes Zoster 1	
Appendicitis	3	Psoriasis 1	
Diphtheria	1	Vaccinations	20
Mumps	1		
Nephritis	1	Injuries	91
Jaundice	2	Fractures 9	
Neuritis	1	Dislocations 2	
Orchitis	1	Sprains 64	
Eye trouble	3	Concussions 2	
Migraine	8	Cuts 4	
Gastralgia	13	Burns 1	
Cardiac trouble	3	Abrasions 7	
Local Infections	10	Loose cartilage in knee 2	

Operations	12
For Hernia	2
" Appendicitis	2
" Nasal Trouble	3
" Tonsils	3
" Abscess	1
" Tumour	1

Improvement during the Year:

Students under A.1 last year, whose category has been raised	44.7%
Students who, through illness or accident, have had their physical standard lowered	7%

Athletics.—Over 2,000 medical certificates were signed for those taking part in athletics.

Visitors.—During the year we were favoured with a visit from Lord Dawson, the King's physician, who took a great interest in the physical examinations of the students. Mr. Gunn, of the Paris office of the International Health Board, and a number of others interested in health work among students also examined our Health Service.

(16) REPORT OF MEDICAL ADVISER OF WOMEN

(Dr. Edith Gordon, Medical Adviser)

Physical Examinations.—There have been 663 physical examinations made. Of these 344 were compulsory. These were of students from University College, the Faculty of Medicine and the College of Education who were required to take the Physical Training prescribed for the women students of these Colleges and Faculties.

The remaining 319 examinations represent physical examinations voluntary on the part of the students. All faculties, colleges, and departments of the university were represented in this group. Among the number were 135 who have been examined for two successive years, 53 who have been examined for three successive years, 43 for four successive years, and 9 who have been examined for five successive years. I have tabulated these examinations according to improvement or otherwise.

It is very gratifying to find an appreciation of the value of annual physical examinations growing among the students. If the custom is encouraged during undergraduate days, it may lead to a continuance of it after graduation, and so establish a valuable aid in the early diagnosis of chronic diseases and the prevention of serious disabilities.

There have been 15 re-examinations of students who were exempted from the physical training requirement because of their physical conditions.

Since the Women's Athletic Directorate requires that all students participating in intercollegiate and interuniversity sports shall be pronounced physically fit to participate in the sport undertaken, there have been a large number of examinations for that purpose.

Consultations.—There have been 1,485 consultations. These are mostly with students who are seeking advice regarding their general health. The matter of personal hygiene is carefully gone into with such students, advice regarding health habits is given, and the students are asked to return at a later date to report progress. Many students will report to the Medical Office at the outset of some acute illness of greater or less severity, and recommendations regarding the need for further medical care and treatment are given.

Of necessity, considerable medical work of an emergency kind is done in the office, but all cases that require treatment other than of the simplest character are referred elsewhere.

During the month of January, when smallpox was present on the university campus, more than 200 vaccinations were made. The after effects of this procedure were negligible except in a few cases where the students had not had a successful take previously. Experiences of this kind would make one urge the need for a successful vaccination of all students previous to their entrance to the university. A universal regulation, applying to all entering students instead of to the small group in certain residences, would render the university immune in case of a smallpox outbreak in the city.

Illness.—There has been considerable illness among the women students, particularly in the latter half of the year. The influenzal cold that affected many was of a more severe type than in the previous years, and the after effects were very slow in clearing up. Up to the time of writing examinations the amount of illness among the women students was greater than in former years, and many students were writing their papers under distinct physical handicaps. Some method of caring for those who are ill in boarding and rooming houses ought to be devised. Infirmary accommodation for these women who often attend lectures and laboratories when they should be in bed, or who have no one to care for them should they remain there.

Lectures.—A series of three health talks, based upon the needs of the women as revealed by the physical examinations, were given to the first year women students of University College and the Faculty of Medicine. It was necessary to repeat the talks three times in order to reach all the students. Miss Coventry very kindly gave the needed hours for this work from the gymnasium periods, and granted credit for attendance.

A series of four lectures in personal hygiene was given to the class in Public Health Nursing.

A series of ten lectures in personal hygiene was given to the students in the first year of the course leading to a diploma in Physical Education; fifteen lectures and demonstrations in First Aid were given to the second year of the same course; and twenty-five lectures in general hygiene were given to the third and fourth years of the same course.

Needs.—The outstanding need for the women of the university is a larger and properly equipped Department of Physical Education. The present quarters are quite inadequate for the work which is being done in them, and no hope for future development can be expected until the space available for such work is increased considerably. It was a great pleasure to be able to offer suggestions for the set of plans for a new Women's Gymnasium Building that bave been made in the Superintendent's office during the past winter. It is sincerely to be hoped that the building itself may become a reality in the near future.

PHYSICAL EXAMINATIONS OF THE WOMEN OF THE UNIVERSITY OF TORONTO FOR THE YEAR 1925-1926

University College (1929)	209
University College (other years)	97
Faculty of Medicine (1931)	10
Faculty of Medicine (other years)	17
Ontario College of Education	125
Victoria College	67
Trinity College	54
St. Michael's College	36

Department of Social Service	2
Department of Public Health Nursing	25
Department of Household Science	3
Graduate, Occasional and Special	18
Total	663
Group A.—Compulsory Examinations	344
1. Students physically able to take Physical Training	84.9%
2. Students requiring supervised or corrective exercises	13.1%
3. Students unable to take Physical Training (temporarily or permanently)	2.0%
Group B.—Voluntary Examinations	319
1. Students physically able to take Physical Training	86.5%
2. Students requiring supervised or corrective exercises	9.4%
3. Students unable to take Physical Training (temporarily or permanently)	4.1%
I.—Preventable and correctable defects (poor posture, poor nutrition, functional spinal curvature, weak feet, constipation, etc.) These defects could be corrected by remedial exercises and proper personal hygiene.	65.9%
II.—Defects that could be corrected by treatment, operation, etc. (diseased tonsils, eye defects, diseased teeth, etc.)	23.0%
III.—Defects that are correctable, but that could be prevented from becoming more marked, or developing into acute conditions (organic heart lesions, organic spinal curvature, chest conditions, etc	11.1%
Total defects	988
Examination for Second Year in succession	135
Marked improvement	8.1%
Slight improvement	55.6%
No improvement	20.8%
Retrogression	18.5%
Examination for Third Year in succession	53
Marked improvement	1.9%
Slight improvement	58.5%
No improvement	30.2%
Retrogression	9.4%
Examination for Fourth Year in succession	43
Marked improvement	11.6%
Slight improvement	55.8%
No improvement	16.3%
Retrogression	16.3%
Examination for Fifth Year in succession	9
Marked improvement	11.1%
Slight improvement	55.5%
No improvement	33.3%
Retrogression	
Consultations	1,485
General Hygiene	271
Diseases of upper Respiratory tract (Pharyngitis, Laryngitis, etc.)	259
Influenza	20
Tonsilitis	26
Pleurisy	1
Heart Conditions	2
Gastro intestinal disturbances	34
Hernia	2
Varicose veins	4
Sciatica	2
Herpes Zoster	2

Sprains, strains, injuries, synovitis	224
Arthritis	3
Fractures	1
Orthopedic Conditions	7
Chronic Skin Conditions (acne, eczema, etc.)	41
Skin infections (furuncle, felon, etc.)	143
Burns	25
Teeth	6
Eye conditions	29
Nasal conditions	1
Ear conditions	14
Menstrual irregularities	39
Communicable diseases (measles, chicken pox)	6
Hypodermics of iron administered	58
Vaccination for smallpox	204
Reporting illness	121
Total	1,485
Haemoglobin	29
Urinalysis	135
Re-examinations	15
Special examinations for sports	76

REPORT ON ATHLETICS AND PHYSICAL TRAINING

(T. A. Reed, Secretary, Athletic Association)

(*a*) *Physical Training.*—In the Gymnasium Classes for regular Physical Training in the First and Second Years, 512 sessions were held with an enrolment of 987 students, all the work being carried out under the supervision of the Chief Instructor, Mr. D. M. Barton, with the assistance of Mr. W. H. Martin and Mr. J. E. McCutcheon. When weather permitted some of these classes were taken on the running track and on the campus, and as in former years students who were physically fit were allowed to choose some form of competitive athletics as an alternative.

315 men were enrolled in the C.O.T.C., and of these 266 were granted their attendance in Physical Training in full on the Adjutant's certificate. The Corrective Classes were again a feature of the work of the department, the Medical Director, Dr. Porter, and Mr. Barton co-operating in providing suitable work for those who had some physical defects. There were 439 of these classes held for 122 men, and by the end of the fall term a number of these were fit to be transferred to the regular classes.

The Swimming Classes were conducted under the supervision of Mr. W. W. Winterburn. There were 199 "Learn to Swim" classes and 240 classes in Life Saving. Of these 83 were taught to swim and dive, and 205 passed the tests of the Royal Life Saving Society in "First Aid to the Drowning." While there is no regulation making it compulsory on every first year student to learn to swim, every encouragement is given to enable him to take his Physical Training in this important work. It is impossible to speak too highly of Mr. Winterburn's splendid work in this connection, which is of the highest value to the university.

The number of first and second year students failing to complete their Physical Training as required by the Senate is this year very small, the percentage being less than seven per cent.

(*b*) *Intercollegiate Athletics*—.In Intercollegiate Athletics the year 1925-26 has been a very satisfactory one in the relationship existing between the University of Toronto and our sister institutions, the competitions held being notable for the high standard of sportsmanship displayed by all the contestants. It is also gratifying to note the entrance of the University of Western Ontario and of the University of Montreal in many of the sports.

The University of Toronto won the following Intercollegiate Championships: Harrier, Track, English Rugby, Golf, Senior Hockey, Boxing, Wrestling and Fencing, Swimming and Diving, Gymnasium and Junior Rugby.

McGill University won the Soccer, Tennis and Water Polo, and Queen's University again won the Senior Intercollegiate Rugby Championship, the Basketball and the Junior Hockey. St. Michael's College won the Intermediate Rugby; the Royal Military College the Intermediate Hockey, and the Ontario Agricultural College the Intermediate Basketball.

Special mention should be made of the winning of the Track Championship by the University of Toronto in a close contest at Montreal, thus bringing the Tait McKenzie Trophy back to Varsity after an absence of eleven years.

Teams represented Varsity in the O.R.F.U. Senior Rugby Series, and in the O.H.A. Senior and Junior Series in Hockey, the Senior Hockey Team as winners of the Intercollegiate Series, representing the Intercollegiate Union in the contest for the Allan Cup. Four very close and exciting games were necessary before a decision was reached, the Port Arthur team finally winning the deciding point.

The Rowing Club again made a good showing, and placed crews in various regattas during the summer.

Several university teams visited the United States, and in every case upheld the honour of the University of Toronto, whether defeated or victorious. The Intercollegiate Boxing, Wrestling and Fencing Team visited the United States Naval Academy at Annapolis, and the United States Military Academy at West Point, these meets now being regarded as an annual feature in those two centres. The Hockey Team played a series of games with American colleges at Boston and at the Madison Square Gardens in New York, while the Basketball and Lacrosse Teams again made short tours in American cities.

(*c*) *Interfaculty Athletics.*—In this most important branch of university athletics there was the usual large enrolment. Representative teams from the various colleges and faculties competed for the numerous cups, emblematic of championships in the respective sports. The record for the past year is as follows:

Series	Cup	Winners	Total number of men engaged
Rugby	Sir William Mulock Cup	Sr. Meds.	308 (14 teams)
Track	W. L. Rowell Memorial Cup	Meds.	79
Soccer	Arts Faculty Cup	Dents.	85 (5 teams)
Harrier	J. Brotherton Cup	O.A.C.	80
Hockey	W. T. Jennings Cup	Vic.	180 (15 teams)
Basketball	Hon. Clifford Sifton Cup	Jr. Dents.	216 (18 teams)
Boxing, Wrestling and Fencing	Francis Davison Cup	O.A.C.	54 (6 teams)
Indoor Baseball	A. G. Spalding Cup	Sr. Dents.	132 (12 teams)
Swimming	A. M. FitzGerald Cup	U.C.	56
Water Polo	H. P. Eckardt Cup	Sr. Meds.	90 (8 teams)
Indoor Track	Toronto Cricket Club Cup	S.P.S.	90
Rowing		Sr. S.P.S.	63 (7 teams)
Tennis	F. Y. McEachren Cup (University Champion)	A. W. Ham (Med. VI)	110
Swimming	B. Durnan Cup (University Champion)	J. M. Goss (S.P.S. I.)	8

Mr. W. H. Martin's work in connection with Field Athletics and Wrestling Instruction, as well as his handling of the Physical Training Classes, has justified his appointment as successor to Mr. A. J. Edmonds, whose removal to Australia a year ago was a distinct loss to us. In October last Mr. J. E. McCutcheon was appointed to the Physical Training staff, and in addition to assisting in carrying out the regulations in regard to Physical Training, has paid special attention to the Basketball and the Indoor Baseball competitions. The whole staff has co-operated with the Athletic Directorate, and in this way has made possible the correlation of the Compulsory Physical Training and Competitive Athletics.

The Athletic Directorate for 1925-26 consisted of Prof. M. A. Mackenzie, President, Prof. C. H. C. Wright, Faculty Members; Dr. J. A. McCollum and Dr. W. Easson Brown, representing the Athletic Advisory Board; and the following, elected by the undergraduates, with Mr. J. E. McKeon, representing the Students' Administrative Council; Mr. L. W. Black, Mr. J. F. Dreyer, Mr. Hugh Plaxton, Mr. J. L. Uren and Mr. C. R. Weber.

IV. DEPARTMENT OF PHYSICAL EDUCATION FOR WOMEN

(Miss I. G. Coventry)

I beg to submit the following report of the Department of Physical Education for women students during the past session, 1925-26.

First year students enrolled in Compulsory Physical Training	201
First year students enrolled in Diploma Course Physical Training	38
Second year students enrolled in Diploma Course Physical Training	19
Third year students enrolled in Diploma Course Physical Training	6
Fourth year students enrolled in Diploma Course Physical Training	7
Students, all years, Corrective and Remedial classes	66
Students, all years, Fencing Class	24
Students, all years, National and Classical dancing classes	52
University College Basketball and Baseball teams	40
Faculty of Medicine Basketball and Baseball teams	15
Victoria College Basketball and Baseball teams	25
St. Michael's College Basketball and Baseball teams	22
Students from University College	252
Students from Faculty of Medicine	8
Faculty of Trinity College	4
Students from Victoria College	38
Students from St. Michael's College	9
Total number of class periods of instruction in the gymnasium during the year	864
Total number of students, all colleges, faculties and departments using the swimming pool during eight months	366
University College	299
Trinity College	14
Victoria College	42
St. Michael's College	11
Faculty of Medicine (Tuesday nights)	12
Administrative Staff (Wednesday nights)	28

To fulfil the official regulation of two class periods a week for compulsory physical training it was necessary to arrange 19 class periods per week to accommodate all students, as many could not attend the regular class periods assigned for the compulsory classes. This necessitated a great deal of repetition in teaching.

Seven special class periods of instruction in corrective and remedial exercises were arranged to accommodate students who were medically advised to take this work. These classes were composed of from 10 to 12 students who attended two periods per week. This work was conducted in a small inadequate room while the gymnasium was being used for the larger classes.

To meet the many appeals of athletic teams and clubs for organized games it was necessary to adapt several periods at hours most inconvenient to the students.

Diploma Course in Physical Training

Due to the lack of room-accommodation for the practical and theoretical work it was difficult to arrange satisfactory class periods to suit the seventy students who were registered in the First, Second, Third and Fourth Diploma Course in Physical Education. Notwithstanding the handicaps the students of the fourth year have carried on arduously and courageously through the many conflicts to a successful termination. They are ardently anticipating the reward

of a Diploma for the completed course in Physical Education to be granted by the University of Toronto this year.

It is pleasing to state that six students have successfully passed the requirements of the Physical Education Course.

One of the helpful features in the course was the co-operation of the Physical Directresses in the city collegiates who were granted permission to arrange, under supervision, special periods for the practice teaching prepared by the students of the Fourth Year.

A series of lectures on Applied Anatomy and Kinesiology was given to the students of the Second Year.

History of Physical Education, Anthropometry, Physiology of Exercise, Theory and Methods of Teaching were given to the students of the Fourth Year.

All theory lectures were taken in the Physical Education Department of the Household Science Building.

It is pleasing to note the interest and enthusiasm that is being shown toward the prospective Physical Education Building to be erected in the very near future for the women students of the University of Toronto.

REPORT OF THE ONTARIO COLLEGE OF EDUCATION PHYSICAL TRAINING DURING THE PAST EIGHT MONTHS, 1925-26

Total number of women students enrolled in the gymnasium class	117
Total number of women students enrolled in the swimming class	117
Total number of class periods of instruction during the session	240

The gymnasium class of 117 students was divided into two classes—each class was given forty-five minute periods of instruction in practical gymnastics four days per week.

Classes in swimming were arranged into sections and instruction given one hour each day and two hours on Saturday morning by Mr. Gilbert Cochrane.

(17) REPORT OF THE WARDEN OF HART HOUSE

(J. B. Bickersteth, Esq., M.C., M.A.)

One of the most outstanding features of the past year has been the steady increase in the senior membership of the House. There are now 506 Graduate members and 222 Faculty members—a total of 728 compared with 630 for the previous year. Among these are a large number of young graduates who have appreciated the advantages which, as undergraduates, they enjoyed at Hart House and so desire to keep up their connection with it Recently graduated classes are tending to use Hart House more and more for their monthly dinners and meetings and everything possible is being done to encourage this. The Graduate Committee has been constituted as a regular committee of Hart House. This year for the first time a Graduate Ball was held in Hart House. This took place on New Year's Eve, and was an unqualified success, doing much to develop a corporate feeling among graduate members. The rapidly-growing membership of senior members is in no small measure due to the time and labour devoted to their interests by the Warden's Secretary, Mr. J. Hornal, himself a graduate of University College '24.

The interest which undergraduates are now taking in the work of the Sketch Room is most encouraging. Exhibitions arranged by the Sketch Committee and changing every two weeks have been held continuously from September until May, and have been visited by hundreds of men. The following artists arranged exhibitions of their work: Mr. J. E. H. Macdonald, Mr. Arthur Lismer, Mr. H. G. Keller (Cleveland, Ohio), Mr. Leslie Perry (Montreal),

Miss Wyle and Miss Loring (the first exhibition of sculpture ever held in Hart House), Mr. S. G. Moyer and Mr. F. S. Haines. In addition to these there was an exhibition of coloured reproductions of Old Masters, two exhibitions by the Camera Club, two exhibitions of Marees Facsimiles, and the annual exhibition of work by members of Hart House. This latter exhibition was particularly successful. A sufficient number of oils, water-colours, etchings and drawings were sent in by undergraduate, graduate and faculty members to cover the walls of the room, and the high standard of the work proved how many excellent artists the university possesses. Lectures and discussions on Art have been held from time to time during the winter, and the usual classes on Art were attended by a larger number of students than ever before. This year for the first time a Print Fund has been established, $365 having been subscribed by members of the faculty and friends in the city. This money will be spent in mounting prints, in purchasing reproductions and in developing the work of the Sketch Room in whatever manner seems desirable. In March Hart House received a valuable gift of twelve prints from M. Knoedler & Co., of New York. It is now the definite policy of Hart House to build up a collection of Canadian pictures, the aim being to purchase two canvases each year. A committee of artists has given the purchasing committee valuable assistance this year in procuring two excellent pictures.

As in past years music has played an extremely important part in the life of Hart House. The series of eight Sunday Evening Concerts, given without remuneration by the outstanding musicians of Toronto, has again drawn enormous audiences to the Great Hall. The Friday Afternoon Recitals have also attracted large numbers of men. A series of Songsters, which have been held in the Music Room on those Sunday evenings when there was no concert in the Great Hall, have proved a most successful experiment. The average attendance has been a hundred men, who, under the direction of Mr. Campbell McInnes, have been singing folk-songs, ballads and chorales. The word "Songster" is an old English word, still in use in Sussex and elsewhere, denoting the place where people come together to sing and also the singer himself. One of the most significant facts in the musical life of the university was the performance of Bach's "St. Matthew Passion" by special choirs in Convocation Hall during Holy Week. This performance was given under the auspices of the Board of Governors. The Music Committee of Hart House co-operated in its management, being responsible for the selling of tickets for the top galleries which were reserved for students. The fact that these galleries were sold out proves the interest in music among the undergraduates as a whole —an interest which it is not unreasonable to suggest has been stimulated by the opportunity to hear good music in Hart House.

The hope expressed last year that debates on the open parliamentary system would become an established practice in Hart House seems to have been realized. During the winter four excellent debates have been arranged by the debating committee. On every occasion members of Hart House have filled the Lecture Room and the interest shown would seem to prove that debating of this type will gradually supersede the old system of competitive team debating with judges. The Hon. E. C. Drury, Mr. J. M. Godfrey, K.C., and the Hon. Manning Doherty, and other visitors, have either spoken "on the paper" or from the floor of the House. The Imperial Debaters, speaking from different sides of the House, took part in the February debate. H.R.H. the Prince of Wales has presented to Hart House a large framed photograph of himself and a letter was received from his private secretary, Captain Alan Lascelles, stating that the Prince wished Hart House continued prosperity. This photograph has been hung in the Lecture Room with those of graduates of the university who are or have been Prime Ministers of the Dominion or of one of the Provinces.

The high quality of the meals served in the Great Hall and throughout

the House has been maintained during the period under review and the number of special dinners and functions of all kinds held in Hart House increase from year to year. The business ability of the Superintendent of the Great Hall, Mr. W. H. Campbell, has contributed much towards the successful operation of this department of the House.

The pressing need for further accommodation in Hart House is becoming a great problem. Various departments of the House, such as the camera rooms, the sketch room, the various administrative offices, the graduate rooms, the servery and kitchens are now seriously hampered by want of adequate space. The Board of Stewards has given this matter careful consideration and has officially called the attention of the Massey Foundation to the fact that Hart House has now reached a point where lack of accommodation for its various activities may seriously affect its future development.

Hart House continues to attract an enormous number of visitors from every quarter of the globe. Among the more prominent visitors during the past twelve months have been Major the Hon. John Astor, Dr. T. R. Glover, Mr. Lionel Curtis, Mr. St. Loe Strachey, Lord Dawson of Penn, Mr. Jacob Ben Ami, Mr. John Bassett Moore, Mr. J. H. Oldham, Dr. M. J. Rendall, Dr. Wolfgang Koehler, Lord and Lady Willingdon, the Imperial Debaters, Mr. FitzRoy Carrington, Mr. Bagnani, Lord and Lady Allenby, the Rev. Hugh Pope, the Duchess of Atholl, Mr. Sydney March, Sir Esmé Howard, Dame Katherine Furse, Dame Rachel Crowdy, Mr. James W. Gerard, the Hon. Lucien Cannon (Solicitor-General for Canada), Mr. Wilson Harris and Sir Josiah Stamp.

American Universities from one end of the United States to the other are constantly sending architects or other representatives here to study the House and the various phases of its life. Hardly a week goes by without the mail bringing requests from different parts of the world for information. In January I paid a visit to the University of Pittsburgh at the request of its Chancellor and discussed with him undergraduate problems and the possibility of introducing some of the facilities afforded by Hart House into the new fifty-two storey building which is to house the university there. In December Mr. J. R. Gilley, the Comptroller of Hart House, paid a visit to the Universities of Michigan, Purdue, Pittsburgh and Cornell, where he was able both to obtain and give useful information about common problems of student life.

During October, November and December the Students' Christian Association received a visit from the Rev. F. A. Cockin. Mr. Cockin, who is perhaps the most outstanding man in the British Student Movement at the present time, made his headquarters in Hart House, and during these three months was able to make a contribution of incalculable worth to the religious life of the university. As an outcome of his visit the Students' Christian Association felt that the time had come to make a definite step forward and in January an invitation was extended to the Rev. F. J. Moore to take over the direction of the Student Christian work of the whole university. This appointment has met with universal approval, and it is confidently expected that under Mr. Moore's guidance the work of the association will become a real influence in the life of the undergraduates as a whole.

It is difficult to exaggerate how much Hart House owes to the steady and devoted work of its various committees. Nearly one hundred undergraduates serve on these committees, and members of the Faculty give freely of their time and experience to the affairs of the House. This spring the Rev. E. J. McCorkell, Superior of St. Michael's College, severs a connection of several years with the House Committee. Hart House owes Father McCorkell a great debt of gratitude for all he has done. The same can be said of Professor Barker Fairley, retiring from the Sketch Committee, to whose untiring efforts is due in great measure the remarkable development of the Art activities of the House. Professor G. E. Jackson this year gives up the chairmanship of the Debating

Committee, and it is largely due to his labours that Hart House debates have now become an established practice. The services of the Comptroller, Mr. J. R. Gilley, become increasingly valuable with each succeeding year. He carries the main burden of the administratiou of Hart House with outstanding ability.

To the Board of Stewards and to the Finance Committee I must again express my most sincere thanks. Without their sympathy and practical co-operation little could be done. And to the members of Hart House as a whole, numbering some three thousand two hundred persons, who have continually shown me so many kindnesses, and, in particular on the night of my birthday, I can only say that it is they who are making Hart House what it is and may yet become.

(18) REPORT OF THE DIRECTOR OF THE CONNAUGHT LABORATORIES

(Dr. J. G. FitzGerald)

This is the twelfth annual report of the work of these Laboratories.* It is a summary of the operations for the academic year 1925-26. From 1914 to 1917 the work was carried on in what was described as the Antitoxin Laboratory, Department of Hygiene. During this period quarters in the medical building and a stable on Barton Avenue (1913-1916) and for a part of 1915-1916 the old Ontario Veterinary College premises on Temperance Street were utilized. As a result of Colonel Gooderham's benefaction the university farm and the Connaught Laboratories were occupied in the late autumn of 1916, and formally opened in 1917. Since that time until the present (1926) the work has been carried on in the laboratories in the medical building, in the insulin laboratory (1923), and in the basement of the anatomy building (1925), as well as at the university farm in the Connaught Laboratories.

The present year marks the opening of a third period in the history of these laboratories. In the report for 1925 reference was made to the fact that the International Health Board of the Rockefeller Foundation had contributed the sum of $400,000 to provide a building for a School of Hygiene in which the Connaught Laboratories were also to be housed. This building is nearing completion and will be ready for occupancy during the present year (1926).

The expansion in the scope and volume of work has led, as has been stated, to temporary quarters being sought in the old Y.M.C.A. building, in the basement of the anatomy building, as well as in the sub-basement, basement, first floor and second floor of the medical building. Additional room has of necessity been utilised wherever it could be found, and while creditable progress has been made the arrangements have been far from satisfactory. The concentration of all the activities of the university section of the Connaught Laboratories in one building, and in quarters suitably constructed and equipped, will make for increased efficiency in the service which for the past twelve years the laboratories have endeavoured to render. Many members of the staff have laboured under most difficult and unsatisfactory conditions in a highly commendable fashion; in consequence it is realised with the greatest satisfaction that almost immediately adequate and suitable space and splendid facilities will be made available.

The growth in personnel from 9 full-time and 9 part-time (total 18) workers in 1915, to 66 full-time and 8 part-time (total 74) in 1926 is one of the indications that a serum institute in a university serves an increasingly useful purpose.

Staff changes:

Dr. C. H. Best, Assistant Director, has been absent on leave throughout the

*The first report appears in the President's report, University of Toronto, 1914, and the financial report for the first year's operations in the Report of the Board of Governors, University of Toronto, for 1915.

year. During this time Dr. Best has been on an International Health Board Fellowship doing post-graduate research work in England and in a number of European countries. Dr. D. A. Scott has been acting Assistant Director in the absence of Dr. Best. Miss Edith M. Taylor, Ph.D., Miss E. V. Eastcott, Ph.D., and Miss C. J. Fraser, M.A., have been appointed to the research staff. Among the research personnel the following resignations have been accepted with regret:

Dr. Mary Cowan—Research Associate—to return to England.

Miss Beatrice Howitt—Research Assistant—to return to the University of California.

Mr. K. McAlpine—Research Assistant—to engage in commercial work in the United States.

The death of Mr. Arthur Wall, one of the original members of the staff of the insulin division, which occurred after the previous report had been sent forward, is here chronicled with deep regret. He was an enthusiastic, diligent and trustworthy assistant who had the distinction of taking an active part in the first large-scale production of insulin. There have been a certain number of appointments and resignations in the technical staff during the year. The turn-over, however, has been small.

Research Activities.—During the year the Director and Dr. A. H. W. Caulfeild, Research Member of the Laboratories, with Dr. Oskar Klotz, Professor of Pathology and Bacteriology, were asked to collaborate with the National Research Council of Canada (and through the Council with representatives of other universities and governmental laboratories), in the preparation of a plan for tuberculosis research in Canada on a large scale. Approval has been given by the Governors to a plan for research in tuberculosis in the Connaught Laboratories and the Department of Pathology and Bacteriology, in association with other laboratories elsewhere in Canada and in conjunction with the National Research Council. Dr. Caulfeild has been placed in charge of the work to be undertaken in the various laboratories in the University of Toronto. Dr. J. W. Bell and Miss M. S. Bassingthwaite, B.Sc.Med., will devote their entire time to this work in the Connaught Laboratories, being employed by the Research Council. Other workers have been engaged to conduct investigations elsewhere in the university under Dr. Caulfeild's direction.

The initiation of this work has necessitated the construction of a new stable at the university farm, as well as the provision of facilities, laboratory space, equipment, etc., in the research division. Among the various problems which have received attention during the year the following may be mentioned: further investigation of diphtheria toxin and antitoxin; a study of certain strains of B. diphtheriae; researches in whooping cough, natural immunity to diphtheria, the depressor substances in tissue extracts; the production of toxin by strains of streptococci from various sources; protein sensitisation; chemical study of insulin; investigation of vaccine and other viruses. Much work, both clinical and laboratory, has been done to demonstrate the precise value of scarlet fever toxin and antitoxin in the prevention and treatment of scarlet fever. A list of publications is appended hereto. These have appeared during the year. In them are summarised the results of some of the investigations carried on during this period.

Public Service.—The work of the antitoxin and insulin divisions has been greater in volume and scope than in any year since the establishment of the laboratories. Important technical improvements in methods of production of antitoxin and insulin have been made. A further price reduction in insulin has been effected. This is the seventh reduction in three years. The following products are being distributed:

Anti-meningococcic serum, anti-rabic virus, Dick test outfits, diphtheria antitoxin, diphtheria Toxoid, insulin, normal horse serum, paratyphoid vaccine,

scarlet fever antitoxin, scarlet fever toxin, Schick test outfits, tetanus antitoxin, type I pneumococcus serum, typhoid vaccine, vaccine virus, whooping cough vaccines.

The countries in which products have been distributed are:

British West Indies (Barbados, Bermuda, British Guiana, Jamaica, St. Lucia, Trinidad), Dominion of Canada (all provinces), Ceylon, Colombia, Cuba, Czechoslovakia, Finland, India, Irish Free State and Northern Ireland, Japan, Newfoundland, New Zealand, Portugal, Roumania, San Salvador, South Africa, Spain, United States, Uruguay, Venezuela.

Necessary extensions and repairs have been made to the buildings at the farm. To the Chairman of the Connaught Laboratories Committee of the Governors and to the members of the staff of the Laboratories the Director is under obligation for splendid co-operation and assistance at all times.

List of Publications Issued by the Connaught Laboratories During the Year 1925-1926

1. The question of variation in diphtheria antitoxin content of the blood of adults. J. G. FitzGerald. Transactions of the Royal Society of Canada, May, 1926.

2. Influence of horse immune serum on toxin-antitoxin mixtures. P. J. Moloney and C. J. Fraser. Presented by J. G. FitzGerald. Transactions of the Royal Society of Canada, May, 1926.

3. Effect of diphtheria antitoxin on immunization with toxoid. P. J. Moloney and C. J. Fraser. Presented by J. G. FitzGerald. Transactions of the Royal Society of Canada, May, 1926.

4. Some laboratory tests to determine the bacterial effect of an antiseptic when added to cutting oil and cutting compound. D. T. Fraser. Presented by J. G. FitzGerald. Transactions of the Royal Society of Canada, May, 1926.

5. The intracutaneous virulence test for corynebacterium diphtheriae. D. T. Fraser. Presented by J. G. FitzGerald. Transactions of the Royal Society of Canada, May, 1926.

6. Preliminary report on the effect of varying hydrogen-ion concentrations on the longevity of vaccine virus. R. D. Defries and N. E. McKinnon. Presented by J. G. FitzGerald. Transactions of the Royal Society of Canada, May, 1926.

7. Developments of scarlet fever research. D. T. Fraser. The Public Health Journal, April, 1926.

8. The Tuberculo-complement-fixation and Inhibitive tests. (Results obtained by repeated tests in clinical normals, tuberculosis contacts and 1,000 cases). A. H. W. Caulfeild, in collaboration with W. R. Hodge, M. F. Maclennan, F. LaRush, W. E. Ogden, Horace McIntyre, G. C. Anglin, and C. Cohen. The American Review of Tuberculosis, Vol. XI, No. 6, August, 1925.

9. Skin tests on hay fever cases with (chemically) different fractions from ragweed pollen. A. H. W. Caulfeild. Proceedings of the Society for Experimental Biology and Medicine, XXII, p. 38-40, 1925.

10. A further investigation of the chemical properties of insulin. D. A. Scott. Journal of Biological Chemistry, Vol. LXV, No. 3, October, 1925.

11. Practice of Preventive Medicine (second edition), J. G. FitzGerald. C. V. Mosby Company, St. Louis, 1926.

(19) BIOLOGICAL MUSEUM AND ROYAL ONTARIO MUSEUM OF ZOOLOGY

(*Professor B. A. Bensley*)

During the year 1925-26 the zoological collections were augmented through numerous donations by purchase and as a result of museum expeditions.

(1) The following were the more important donations:

An unusually fine mounted specimen of the rare shoe-bill stork from H. S. Osler, Toronto; head of mountain sheep from S. R. Parsons, Toronto; egg of *Struthiolithus cheresonensis*, an extinct bird, from Prof. C. T. Currelly; a series of stages in the hatching and development of speckled trout fry from L. C. A. Strother, Horning's Mills, Ont.; a mounted speckled trout, weight 7 pounds, from W. G. H. Browne, Toronto; a collection of bird and mammal skins and other specimens from J. A. Varley, Toronto; skin and skull of a partially albino deer from Mrs. Geo. Rosebush, Trenton, Ont.; skin of an anaconda from Brig.-Gen. G. H. Ralston, Port Hope, Ont.; collection of bird and mammal skins from John Boyd, Toronto; a large collection of mounted birds from the Royal Canadian Institute, Toronto; from the City of Toronto Parks Department were received a number of animals, the more valuable of which were: capybara, hogdeer, wallaby, sandhill crane, white swan and gannet.

Donations were also received from J. H. Fleming, Dr. Paul Harrington, Dr. F. A. E. Starr, Stuart L. Thomson, R. F. Gunn, Gilbert Kent, Hubert Richardson, Miss Greenaway, Mrs. Spinks, H. F. Lewis, J. L. Hart, J. J. Copeland, Prof. A. F. Coventry, G. H. Corsan, Rev. W. G. Walton, Miss Howell, Dr. J. S. Hart, E. Brown, H. W. Swaine, A. L. Pritchard, Miss A. P. Macdougall, L. L. Bolton, R. W. Hall, C. E. Corfe, C. Hope, L. Milne.

(2) Photographs and reproductions of animal pictures were received from J. H. Fleming, Dr. Paul Harrington and W. J. LeRay.

(3) Numerous pamphlets on systematic zoology have been received and added to the library. "The Sportsman and Naturalist in Canada" was donated by Armon Burwash of Arnprior and Goldsmith's "Animated Nature," 2 vols., by Jas. Dunlop, Woodstock, Ont.

H. H. Brown donated a collection of several thousand bibliographic slips containing references to literature on natural history.

(4) A number of collections were purchased at a nominal valuation, including:

Collections of bird skins from J. A. Munro, Okanagan Landing, B.C., and Gus Langelier, Cap Rouge, P.Q.; a small collection of birds' eggs from A. A. Wood, Coldstream; a timber wolf from J. M. Prentiss, Toronto.

(5) Members of the staff made collections during the summer of 1925, including 245 bird skins, 154 mammal skins, 18,000 insects and a considerable number of reptiles, amphibians, spiders and miscellaneous invertebrates. Forty-three other specimens of birds and mammals have been collected by members of the staff at other times of the year.

(6) A. Van loaned a number of wild life photographs which were placed on exhibition in the gallery.

(20) STATEMENT REGARDING THE ROYAL ONTARIO MUSEUM OF GEOLOGY

(*Professor E. S. Moore*)

In the last report on the Museum of Geology reference was made to an attempt to secure suitable glass models of some of the famous mines of Ontario. Two of these have now been completed. Through the kindness of the officials

of the Hollinger Consolidated Gold Mines, Ltd., and the Dome Mines Ltd., of the Porcupine district copies of their mine models have been secured on glass. These models have been placed in suitable cabinets and properly lighted so that an interesting view of the geology and the workings in these mines may be had in the Museum. During the year a large number of specimens have also been added to the collections through donation, collection and purchase. Of these acquisitions the following are the more important:

By Donation—

Native gold from Bull Dog Lake, Man. Mr. A. D. Miles.
Native silver, Gowganda, Ont. Mr. J. G. Dickenson.
Native silver, Gowganda, Ont. Mr. F. L. Smith.
Nickel ore and associated rocks, Sudbury district. Mr. A. Brock, Copper Cliff, Ont.
Exhibit of petroleum and its products. Imperial Oil Company, Toronto.
Specimens of Australian minerals from the exhibit of the Australian Commission, British Empire Exposition, Wembley.
Gold, copper and zinc ores from the Rouyn district, Quebec. Mr. K. B. Heisey.
Clinton iron ores from Clinton, N.Y. Professor Nelson C. Dale, Hamilton College.
Calcareous concretions from Lancaster County, Pa. Professor H. Justin Roddy, Millersville, Pa.
Native Antimony, Boulder County, Cal. Mr. W. D. Dalglish, Ottawa.
Gold ore from Hungary and zinc ore from Sweden. Professor H. Ries, Cornell University, Ithaca, N.Y.
Axinite and fouqueite, Moneta Mine, Timmins, Ont. Professor T. L. Walker.
Specimens of gold ore from the McIntyre-Porcupine Mines Ltd. Per Mr. K. Gray, Schumacker, Ont.
Copper ore, Blue Hill, Me. Mr. T. L. Gledhill.
Concretion from Mr. L. J. O'Brien, Grand Prairie, Man.

By Collection:

Gold ores and suites of rocks from Porcupine district, Ontario.
Silver ores and suites of rocks from Gowganda district, Ontario.
Nickel-copper ores, zinc ore and anthraxolite (so-called coal) from the Sudbury district, Ontario.
Copper ores from Lake Superior region, Ontario.
Lead-zinc ores from Galetta, Ontario.

By Purchase:

Suite of tin ores from Tasmania, native silver from Mexico, tin ore from Bolivia, native lead from Sweden and monazite from Norway.
Suite of ores from Nevada Consolidated Mine, Ruth, Nevada.

(21) STATEMENT REGARDING THE PALAEONTOLOGICAL MUSEUM

(*Professor W. A. Parks*)

During the year the following vertebrate material has been mounted in the gallery: Complete skeleton of the largest Canadian dinosaur *Edmontosaurus regalis*, a head of the armoured dinosaur, *Anchiceratops*, and the hind limbs and pelvis of a new species, *Ornithomimus brevetertius*. In addition the skeleton of another new species, *Dichomosaurus warreni*, and a new Champsosaur have been prepared but are not yet placed in position.

The university expedition of 1925 obtained a large quantity of Indian

material and of Pleistocene mammals from Saskatchewan, but none of this collection has been put on exhibition.

Four new cases have been filled with Invertebrate fossils.

The more important acquisitions during the year are as follows:

By Donation:

Set of sections of Bryozoa—R. R. Hibbard, Buffalo, N.Y.

Specimen of Marella splendens—R. R. Hibbard, Buffalo, N.Y.

Specimen of Kionoceras darwini—J. A. Brown, Toronto.

Type specimen of Nastigograptus quadribranchiatus—Mr. J. Satterly, Toronto.

Collection of fossils from Iowa—Professor A. O. Thomas, Iowa City, Iowa.

Eleven specimens of rare Bryozoa—U.S. Nat. Mus., per Dr. R. S. Bassler.

Fossils from England—The director.

Teeth of mammoth and mastodon—Dept. of Zoology (from Can. Inst. collection).

Skeleton of wapiti, skeleton of American antelope, head of Rocky Mountain sheep—National Parks Commission, Ottawa.

By collection

Indian remains, Pleistocene mammals, from Saskatchewan—The director.

Local fossils—The director and staff.

By purchase

Large collection of Bryozoa—Dr. R. S. Bassler, Washington, D.C.

Barrandia bohemicus—Ward, Rochester, N.Y.

Staurograptus dichotomous—Ward, Rochester, N.Y.

Two very fine Isotelus gigas from Napanee, Ont.—Italian workman.

Collection of Brachiopoda showing structure—Ruck, Bavaria.

Eocene and Cretaceous fossils from California—C. Sternberg, San Diego, Cal.

(22) STATEMENT REGARDING THE ROYAL ONTARIO MUSEUM OF MINERALOGY

(Professor T. L. Walker)

In the Royal Ontario Museum of Mineralogy are very extensive collections of minerals and rocks. The systematic collection of minerals is unusually complete and serves not only as a means of familiarising students with the appearance and association of most of the known minerals but also as a store of comparative material for research connected with Canadian mineral deposits. To make the collections more useful to visitors the large specimens in the high cases are provided with special explanatory labels. In the cases on the east wall of the gallery a special display of the minerals of Canada is arranged.

For several years an intensive campaign has been carried on to make the systematic collection as complete as possible. This has been accomplished largely by exchange of material that has been collected and described by members of the staff for material from other museums. The generous co-operation of the mine owners in all parts of Canada has increased the resources of the museum not only by adding to the material for display but by augmenting the material that can be used for exchange.

During the year the collections have been increased by purchase from the O'Brien mine, the Keeley mine and the Mining Corporation of Canada. Notable presentations have been made by the Mining Corporation of Canada, Dome Mines, Limited, J. G. Dickenson, Esq., G. C. Bateman, Esq., Dr. J. M. Bell, L. Heber Cole, Esq., University of Manitoba, Mond Nickel Company and

Professor E. S. Larsen. Important exchanges have been made with the United States National Museum, the McGregor Museum (Kimberley), Riksmuseets (Stockholm), Academy of Natural Sciences of Philadelphia, Harvard University, Museo Nacional di Ciencias Naturales (Madrid), Dr. E. S. Simpson and Professor A. Pelloux, in addition to numerous exchanges of lesser magnitude.

(23) STATEMENT REGARDING THE MUSEUM OF ARCHAEOLOGY

(Professor C. T. Currelly)

During the past year the Museum has experienced one of its outstanding periods of development.

A small addition has been made in the department of Prehistorics by a gift from the British School of Archaeology in Jerusalem of stone implements of the palaeolithic period; also a small number of European bronzes has been obtained.

The Egyptian collection received an important present from the Sudan Government of a number of very fine ushabti figures, also a small collection from Mr. L. Babayan.

The classical department make a marked advance, especially in sculpture, as twenty-three excellent marbles were obtained. Of these the outstanding is the Venus Genetrix statue, an object of surpassing loveliness. The other pieces are extremely desirable additions, the most noteworthy, perhaps, being the head of Menander, which has been received with most favourable comment in both Europe and America. A certain number of vases, terracottas, bronzes (including one well-known Greek helmet), and a large number of important silver and bronze coins, have also been added. The Roman-British section has also had a number of important acquisitions.

In the department of arms and armour the Museum has been singularly fortunate, as several remarkably good suits were obtained, a number of exquisite swords and hafted weapons, and a large collection of gun-locks, known as the Herbert Jackson Collection. There was also some splendid defensive armour, including a shield bearing the stamp of Mahmud II, and one of the very finest type of Highland shields.

The ceramic collections have shown steady growth, the outstanding addition being a collection of exquisite Battersea enamels presented by the Hon. Mrs. Levy.

The remarkable development of the Chinese section has continued, the year's additions being especially illustrative of the earliest bronze age. The material has been of large quantity and of most excellent quality. We have also received some very important porcelains, including two hawthorn blacks. Two examples of early printing, one of the twelfth and one of the early fourteenth century, have also been obtained.

In the Japanese department we have had the banner-year of our whole history. The family of Sir Edmund Walker has presented his marvellous collection of over a thousand prints, a collection made with the greatest scientific and aesthetic care to illustrate the whole art of the Japanese colour print. This is accompanied by many paintings, illustrated books, textiles, and other important material.

In general textiles a few examples of costume have been added.

The furniture department has again received large additions from the T. Eaton Company.

In the department of ethnology a most interesting collection of masks has been added from Africa, also two large totemic carvings and a large quantity of general American Indian material.

The general growth for the year in each department has been such that it would have made a not unimportant museum in itself.

The cataloguing, case-making, teaching work have gone on as usual. The talks to the school children were extremely well attended and most successful; the addresses to out-of-town organizations were also a feature of the year. No unimportant part of the work was the keeping up of the Museum, in its terribly congested condition, to the highest possible standard of cleanliness and attractiveness. Much rearrangement had to take place, and under extraordinary difficulties, this museum being now probably the most congested museum in existence.

APPENDIX B

(1) Enrolment in Colleges.
(2) Enrolment in University subjects.
(3) Registration in Courses in the Faculty of Arts.
(4) Registration for Graduate Courses.

(1) ENROLMENT IN THE COLLEGES

The students in University College were enrolled as follows:

	Greek	Latin	Ancient History	English	German	Scientific German	French	C. & F. French	Orientals	Ethics
First Year—										
Pass.....	14	196	48	231	13	47	185	56	138	0
Honours....	7	35	43	59	29		72			5
Second Year—										
Pass.....	4	50	9	209	17	21	150	27	82	34
Honours...	11	35	9	53	15		46		2	4
Third Year—										
Pass.....	8	12	8	112	4		80	20	72	45
Honours....	9	6	19	20	7		39		3	9
Fourth Year—										
Pass.....	9	20	8	117	3		80	21	79	34
Honours....	10	6	22	44	9		24		3	17
Totals—										
Pass.....	35	278	73	667	37	68	495	124	371	113
Honours....	37	82	93	176	60	0	181	0	8	35

NOTE.—In addition, these departments of the College provided instruction to students enrolled in other Faculties than Arts and in the Teachers' courses:

English 93; German 83; French 246; Ethics 81.

The students in Victoria College were enrolled as follows:

	Greek	Latin	Ancient History	English	German	French	Orientals	Ethics
First Year—								
Pass	4	66	29	64	26	52	12	..
Honours	9	26	31	35	13	34	..	6
Commerce	..	..	..	..	..	9	..	..
Second Year—								
Pass	2	30	3	93	3	64	5	16
Honours	3	17	3	34	8	26	1	1
Commerce	..	..	..	..	..	7	..	..
Third Year—								
Pass	2	6	4	38	1	25	5	12
Honours	5	9	9	30	9	30	..	7
Commerce	..	..	..	..	..	6	..	..
Fourth Year—								
Pass	1	16	3	62	3	45	1	13
Honours	1	1	1	11	8	10	..	11
Commerce	..	..	..	..	..	4	..	..
Totals—								
Pass	9	118	39	257	33	186	23	41
Honours	18	53	44	110	38	100	1	25
Commerce	..	..	..	..	..	26	..	.

The students in Trinity College were enrolled as follows:

	Greek	Latin	Ancient History	English	German	French	Orientals	Ethics	Anc. & Or. Hist.
First Year—									
Pass	6	33	2	37	2	36	1	..	..
Honours	..	7	8	11	2	10	..	..	..
Second Year—									
Pass	7	14	..	28	1	22	2	1	2
Honours	..	5	5	7	..	9	..	..	..
Third Year—									
Pass	..	6	..	13	..	10	..	6	..
Honours	..	..	..	4	..	4	..	..	..
Fourth Year—									
Pass	2	6	2	17	..	10	4	10	..
Honours	..	..	..	3	..	1	..	..	..
Totals—									
Pass	15	59	4	95	3	78	7	17	2
Honours	..	12	13	25	2	24	..	..	..

The students in St. Michael's College were enrolled as follows:

	Greek	Latin	Ancient History	English	German	French	Philosophy	Ethics
First Year—								
Pass	9	52	2	55	..	50	..	..
Honours	2	9	7	12	2	12	..	..
Second Year—								
Pass	2	32	..	46	..	36	23	..
Honours	2	8	2	15	6	18	6	6
Third Year—								
Pass	1	8	..	18	..	14	11	7
Honours	..	1	..	6	1	4	4	4
Fourth Year—								
Pass	..	15	..	34	..	32	27	13
Honours	..	..	..	8	..	5	5	5
Totals—								
Pass	12	107	2	153	..	132	61	20
Honours	4	18	9	41	9	39	15	15

(2) ENROLMENT IN UNIVERSITY SUBJECTS

The following tables exhibit the numbers attending lectures in University subjects, together with the number of those taking the practical work in the laboratories:

DEPARTMENT OF MATHEMATICS

	Pass	Pass and Honours	Honours
Faculty of Arts—			
First Year	399	...	144
Second Year	59	...	90
Third Year	26	...	49
Fourth Year	24	...	26
Faculty of Medicine—			
First Year	21	...	...
Second Year	5	...	...
Third Year	2	...	...
Faculty of Applied Science and Engineering—			
First Year	...	127	...
Second Year	...	108	...
Totals	536	235	309

DEPARTMENT OF PHYSICS

	Pass	Pass and Honours	Honours	Laboratory
Faculty of Arts—				
First Year	305	..	162	162
Second Year	2	..	100	92
Third Year	4	..	19	29
Fourth Year	7	..	17	19
Graduates	..	..	40	16
Faculty of Medicine—				
First Year	..	115	..	115
Second Year	..	11	..	11
Fifth Year	..	1	..	1
Faculty of Forestry—				
First Year	12	..	..	12
Faculty of Household Science—				
First Year	28	..	8	36
Students in Optometry	..	4	..	4
Totals	358	131	346	497

DEPARTMENT OF BIOLOGY

	Pass	Pass and Honours	Honours	Laboratory
Faculty of Arts—				
First Year	305	..	109	109
Second Year	54	..	50	104
Third Year	16	..	3	19
Fourth Year	21	..	21	29
Faculty of Medicine—				
First Year	..	114	..	114
Second Year	..	47	..	..
Third Year	..	30	..	30
Faculty of Dentistry—				
First Year	..	54	..	54
Faculty of Applied Science—				
Fourth Year	..	2	..	2
Faculty of Forestry—				
First Year	..	12	..	12
Fourth Year	..	12	..	12
Faculty of Household Science—				
First Year	..	..	12	12
Second Year	14	..	8	22
School of Graduate Studies	..	..	..	18
Ontario Agricultural College—				
Second and Intermediate Years	..	36	..	36
Third Year	..	16	..	16
Second Year Macdonald Institute	..	60	..	60
Totals	410	383	203	649

DEPARTMENT OF BOTANY

	Pass	Pass and Honours	Honours	Laboratory
Faculty of Arts—				
First Year	305	..	105	105
Second Year	62	..	41	103
Third Year	19	..	3	22
Fourth Year	21	..	11	32
Faculty of Applied Science and Engineering	..	31	..	31
Faculty of Forestry—				
First Year	..	11	..	11
Fourth Year	..	13	..	13
School of Graduate Studies	..	..	12	12
Totals	407	55	172	329

DEPARTMENT OF CHEMISTRY

	Pass	Pass and Honours	Honours	Laboratory
Faculty of Arts—				
First Year	282	..	168	168
Second Year	46	..	73	119
Third Year	33	..	13	15
Fourth Year	4	..	2	6
Faculty of Medicine—				
First Year	..	115	..	115
Second Year	..	96	..	96
Faculty of Applied Science and Engineering—				
First Year	..	31	..	31
Second Year	..	19	..	19
Third Year	..	64	..	64
Fourth Year	..	12	..	12
Faculty of Dentistry—				
First Year	..	55	..	55
Second Year	..	70	..	70
Third Year	..	60	..	60
Faculty of Forestry—				
First Year	12	..	..	12
Second Year	11	..	..	11
Faculty of Household Science—				
First Year	..	..	12	12
Second Year	10	..	8	18
Third Year	5	..	..	..
School of Graduate Studies	..	..	32	24
Totals	403	522	308	907

DEPARTMENT OF GEOLOGY

	Pass	Pass and Honours	Honours	Laboratory
Faculty of Arts—				
First Year	388	..	68	..
Second Year	..	..	12	12
Third Year	11	..	6	16
Fourth Year	8	..	1	9
Faculty of Applied Science and Engineering—				
Second Year	..	32	..	1
Third Year	..	26	..	5
Fourth Year	..	6	..	6
Faculty of Forestry—				
Second Year	..	3	..	..
Third Year	..	7	..	7
School of Graduate Studies	..	..	10	9
University Extension—				
Second, Third and Fourth Years	21	..	..	21
Totals	428	74	97	86

DEPARTMENT OF MINERALOGY

	Pass	Pass and Honours	Honours	Laboratory
Faculty of Arts—				
Second Year	20	..	12	32
Third Year	1	..	14	12
Fourth Year	..	..	3	1
Occasional	1	..	..	1
Teachers	21	..	..	21
Faculty of Applied Science and Engineering—				
First Year	..	47	..	47
Second Year	..	31	..	31
Third Year	..	6	..	6
Fourth Year	..	1	..	1
Faculty of Forestry—				
Second Year	..	11	..	11
Occasional	..	1	..	1
School of Graduate Studies	..	..	8	8
Totals	43	97	37	172

DEPARTMENT OF PHILOSOPHY

	Pass	Honours
Faculty of Arts—		
First Year	..	5
Second Year	46	9
Third Year	88	17
Fourth Year	77	18
Department of University Extension	23	..
School of Graduate Studies	..	20
Department of Social Service—		
First Year	29	
Second Year	18	
Totals	281	69

DEPARTMENT OF PSYCHOLOGY

	Pass	Pass and Honours	Honours	Laboratory
Faculty of Arts—				
Second Year	97	..	6	..
Third Year	59	..	9	68
Fourth Year	61	..	11	..
Faculty of Medicine—				
Second Year	..	51	..	..
Third Year	..	3	..	45
Fourth Year	..	33	..	..
Dept. of Social Service—				
First Year	27	..	..	..
Second Year	21	..	..	..
University Extension—				
Teachers' Class Toronto	..	..	..	12
Dept. of Public Health Nursing	34	..	..	..
School of Graduate Studies	..	..	15	7
Totals	299	87	41	132

DEPARTMENT OF POLITICAL ECONOMY

	Pass	Honours
Faculty of Arts—		
First Year	..	95
Second Year	120	88
Third Year	84	97
Fourth Year	92	82
University Extension	149	..
Faculty of Medicine—		
Second Year	..	..
Faculty of Applied Science and Engineering—		
Second Year	107	..
Faculty of Forestry—		
Third Year	7	..
School of Graduate Studies	23	..
Department of Social Service—		
First Year	28	..
Second Year	18	..
Department of Public Health Nursing	8	..
Occasional Students	3	..
Faculty of Household Science—		
Second Year	8	8
Third Year	4	..
Fourth Year	..	20 (B.A.)
Totals	628	413

DEPARTMENT OF HISTORY

	Pass	Honours
Faculty of Arts—		
First Year	22	82
Second Year	99	106
Third Year	61	87
Fourth Year	65	56
University Extension	91	..
School of Graduate Studies	..	14
Totals	338	345

DEPARTMENT OF ITALIAN AND SPANISH

	Italian		Spanish	
	Pass	Honours	Pass	Honours
Faculty of Arts—				
First Year	21	4	100	26
Second Year	5	2	31	21
Third Year	4	3	23	15
Fourth Year	2	1	24	6
School of Graduate Studies	..	3	..	3
Totals	32	13	178	71

DEPARTMENT OF HOUSEHOLD SCIENCE

	Pass	Honours
Faculty of Arts—		
First Year	..	38
Second Year	..	16
Third Year	22	20
Fourth Year	29	21
Faculty of Household Science—		
First Year	22	12
Second Year	10	8
Third Year	5	..
School of Graduate Studies	..	5
Occasional Students	2	..
Department of Public Health Nursing	38	..
Totals	128	120

(3) Registration in Courses in the Faculty of Arts, 1925-1926

Courses	First Year				Second Year				Third Year				Fourth Year				
	U C	V C	T C	M C	U C	V C	T C	M C	U C	V C	T C	M C	U C	V C	T C	M C	Totals
Pass	186	65	38	53	148	64	23	34	88	40	15	17	100	59	18	33	981
Classics	5	8	1	1	6	3	..	2	5	2	..	..	7	1	..	..	41
Greek and Hebrew	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1
Orientals	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Orientals (Greek Option)	..	..	..	..	..	..	..	..	2	..	..	..	3	..	..	..	5
Hebrew and Ancient History	..	..	..	..	1	1	..	..	1	..	..	..	..	..	..	..	3
French, Greek and Latin	2	2	..	2	1	..	2	2	2	1	..	1	..	..	..	..	15
Moderns	34	16	2	4	15	11	5	9	26	15	1	3	23	11	1	4	180
English and History	23	15	8	5	25	15	3	4	16	22	4	3	18	9	..	1	171
Modern History	3	..	1	..	10	5	..	..	6	4	..	..	2	2	2	2	37
Political Science	10	6	1	..	25	8	4	1	24	10	1	..	29	1	1	2	123
Commerce and Finance (B.A.)	..	..	..	..	..	..	..	..	..	..	..	..	12	2	..	..	14
Philosophy (English or History Option)	3	5	1	1	1	3	..	..	5	6	1	..	7	1	..	..	34
Psychology	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1
Philosophy	1	1	..	..	3	1	1	5	6	1	..	3	6	4	..	5	37
Mathematics	6	2	..	..	5	2	..	1	5	2	..	..	4	..	..	..	27
Mathematics and Physics	25	16	6	1	17	3	2	..	9	6	..	..	10	2	..	..	97
Natural and Physical Sciences	39	23	1	..	..	..	..	..	..	..	..	..	..	..	..	..	63
Physics	..	..	..	..	2	2	..	..	1	..	..	..	..	..	..	..	5
Biology	..	..	..	..	2	1	..	..	..	2	..	..	6	2	..	..	13
Physiology and Biochemistry	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Biological and Medical Sciences	..	..	..	..	18	8	2	2	15	9	2	..	12	5	1	..	74
Chemistry, Mineralogy and Geology	..	..	..	..	5	1	1	..	2	4	..	..	1	1	..	..	15
Chemistry	..	..	..	..	2	1	..	..	..	2	..	..	1	..	..	..	6
Geology and Mineralogy	..	..	..	..	1	..	..	..	3	..	1	..	..	..	..	..	5
Science (General)	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	2
Household Science	..	..	..	..	..	1	..	..	1	..	..	..	1	..	..	..	3
Household Economics	17	14	3	4	8	6	2	..	12	4	2	1	7	12	1	..	93
Commerce and Finance (B.Comm.)	63	11	1	2	32	7	..	2	31	10	1	..	18	6	..	1	185
Duplicates	..	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..	4
Totals	417	181	62	73	329	144	45	62	260	141	28	28	267	118	24	48	2,227

(4) REGISTRATION FOR GRADUATE COURSES

	Ph.D.	M.A.	M.D.	Ch.M.	M.A.Sc.	M.Arch.	C.E.	D.Paed.	Graduate Students
Dept. of Architecture	..	..	..	..	..	1	..	..	..
" " Astronomy	..	1	..	..	..	..	..	..	..
" " Biochemistry	4	2	..	..	..	..	..	..	..
" " Biology	5	5	..	..	..	..	..	..	1
" " Botany	5	5	..	..	..	..	..	..	1
" " Chemical Engineering	..	..	..	..	4	..	..	..	..
" " Chemistry	14	14	..	..	..	..	..	..	1
" " Civil Engineering	..	..	..	..	2	..	2	..	..
" " Classics	2	8	..	..	..	..	..	..	3
" " Educational Theory	1	1	..	..	..	..	..	..	..
" " English	2	9	..	..	..	..	..	..	19
" " Food Chemistry	..	2	..	..	..	..	..	..	1
" " Forestry	..	1	..	..	..	..	..	..	..
" " Geology and Palaeontology	8	1	..	..	..	..	..	..	..
" " German	..	1	..	..	..	..	..	..	..
" " History	2	7	..	..	..	..	..	..	5
" " Household Science	..	3	..	..	..	..	..	..	1
" " Hygiene and Prev. Med	2	..	..	..	..	..	..	..	..
" " Mathematics	2	4	..	..	..	..	..	..	..
" " Medicine	..	..	1	..	..	..	..	..	..
" " Metallurg. Engineering	..	..	..	..	1	..	..	..	..
" " Mineralogy	3	..	..	..	..	..	..	..	..
" " Mining Engineering	..	..	..	..	1	..	..	..	..
" " Path. and Bacteriology	..	..	1	..	..	..	..	..	..
" " Pathological Chemistry	2	..	..	..	..	..	..	..	..
" " Pedagogy	..	..	..	..	..	..	..	54	..
" " Philosophy	1	15	..	..	..	..	..	..	7
" " Physics	12	7	..	..	..	..	..	..	3
" " Physiology	4	2	..	..	..	..	..	..	..
" " Political Science	4	19	..	..	..	..	..	..	1
" " Psychology	1	4	..	..	..	..	..	..	6
" " Romance Languages	1	3	..	..	..	..	..	..	13
" " Semitic Languages	6	2	..	..	..	..	..	..	1
" " Surgery	..	..	..	1	..	..	..	..	..
" " Zymology	..	1	..	..	..	..	..	..	..
Special Registration	..	1	..	..	..	..	..	..	..
Totals	81	118	2	1	8	1	2	54	63

APPENDIX C

RESULTS OF EXAMINATIONS

(1) Faculty of Arts.
(2) Faculty of Medicine.
(3) Faculty of Applied Science and Engineering.
(4) Faculty of Household Science.
(5) Ontario College of Education.
(6) Faculty of Forestry.
(7) Faculty of Music.
(8) Faculty of Dentistry.

(1) Faculty of Arts

First Year

	University of Toronto	Univ. Coll.	Vic. Coll.	Trin. Coll.	St. M. Coll.	Totals	Passed	Starred	Failed	Transferred	Aegrotat	Deferred	Debarred
Pass	..	163	59	37	54	313	137	74	102	..	5	..	53
Supplementals	..	64	23	5	18	110	71	39	..	..	..	..	..
Classics	..	5	8	..	..	13	13	..	..	..	..	..	..
French, Greek and Latin	..	2	2	..	2	6	5	..	..	1	1	..	..
English and History	..	22	15	7	5	49	27	..	..	22	3	..	..
Moderns	..	33	16	2	4	55	42	..	..	13	..	..	1
Political Science and Modern History	..	11	6	2	..	19	12	1	..	6	2	..	1
Philosophy	..	1	1	..	..	2	1	1	..	..	..	1	..
Philosophy, (English or History)	..	3	5	1	..	9	6	1	..	2	..	..	..
Commerce and Finance	..	59	10	1	2	72	34	23	14	1	..	..	..
Mathematics	..	6	2	..	..	8	6	..	..	2	..	..	..
Mathematics and Physics	..	23	17	5	1	46	29	4	1	12	1	1	2
Natural and Physical Sciences	..	38	23	1	..	62	42	13	..	7	2	1	..
Household Science	..	..	..	..	..	..	..	..	..	..	..	..	..
Household Economics	..	16	14	3	4	37	30	3	1	3	..	..	3
Occasional Students	1	7	1	2	..	11	7	..	4	..	..	..	..
Duplicates	..	..	3	1	..	4	3	1	..	..	..	..	..
Totals	1	453	199	65	90	808	459	158	122	69	16	3	72

Second Year

	University of Toronto	Univ. Coll.	Vic. Coll.	Trin. Coll.	St. M. Coll.	Totals	Passed	Starred	Failed	Transferred	Aegrotat	Deferred	Debarred
Pass	..	144	62	23	30	259	136	58	65	..	7	..	22
Supplementals	..	44	21	5	5	75	57	18	..	..	..	..	..
Classics	..	6	3	..	2	11	9	..	..	2	1	..	..
Greek and Hebrew	..	1	..	..	..	1	1	..	..	..	..	..	..
Hebrew and Ancient History	..	..	1	..	..	1	..	1	..	..	..	1	..
Orientals	..	..	..	..	..	..	..	..	..	..	..	..	..
Orientals (Greek)	..	..	..	..	..	..	..	..	..	..	..	..	..
French, Greek and Latin	..	1	..	1	2	4	2	..	..	2	..	..	..
Moderns	..	16	11	4	8	39	30	3	..	6	2	..	1
English and History	..	25	15	3	4	47	41	4	..	2	4	..	..
Modern History	..	9	5	..	..	14	13	..	1	..	..	..	..
Political Science	..	25	8	4	1	38	25	1	..	12	1	..	10
Philosophy	..	3	1	1	5	10	8	1	1	..	..	..	..
Philosophy (English or History)	..	1	3	..	..	4	3	1	..	..	..	..	..
Commerce and Finance	..	30	7	..	2	39	16	14	8	1	1	..	4
Mathematics	..	5	2	..	1	8	5	3	..	..	..	..	..
Mathematics and Physics	..	17	3	2	..	22	17	3	..	2	1	2	..
Psychology	..	1	..	..	..	1	1	..	..	..	..	..	..
Physics	..	2	2	..	..	4	4	..	..	..	..	..	..
Biology	..	2	1	..	..	3	3	..	..	..	..	..	..
Physiology and Biochemistry and Biological and Medical Sciences	..	17	8	2	2	29	13	12	1	3	..	6	1
Chemistry, Mineralogy and Geology	..	5	1	1	..	7	4	2	..	1	..	..	..
Chemistry	..	2	1	..	..	3	1	1	1	..	..	..	..
Geology and Mineralogy	..	1	..	..	..	1	1	..	..	..	..	..	..
Science (General)	..	..	1	..	..	1	1	..	..	..	..	..	..
Household Science	..	..	..	..	..	..	..	..	..	..	..	..	..
Household Economics	..	8	7	2	..	17	8	8	..	1	..	2	..
Occasional Students	1	6	1	2	..	10	7	3	..	..	..	..	..
Totals	1	371	164	50	62	648	406	133	77	32	17	11	38

Third Year

	University of Toronto	Univ. Coll.	Vic. Coll.	Trin. Coll.	St. M. Coll.	Totals	Passed	Starred	Failed	Transferred	Aegrotat	Deferred	Debarred
Pass	..	86	40	12	16	154	111	25	18	..	5	..	10
Supplementals	..	18	8	2	8	36	24	12	..	..	1	..	1
Classics	..	5	3	..	..	8	4	..	1	3	1	..	..
Orientals	..	..	..	..	..	..	..	..	..	..	..	..	..
Orientals (Greek)	..	2	..	..	..	2	2	..	..	..	..	..	1
Hebrew and Ancient History	..	1	..	..	..	1	..	1	..	..	..	..	..
French, Greek and Latin	..	2	..	..	1	3	2	1	..	..	1	..	..
Moderns	..	24	15	1	3	43	37	4	1	1	..	..	2
English and History	..	16	22	4	3	45	45	..	..	..	..	..	..
Modern History	..	6	4	..	..	10	10	..	..	..	..	..	..
Political Science (Economics)	..	5	2	..	..	7	6	..	1	..	..	..	..
Political Science (Law)	..	19	8	1	..	28	22	..	2	4	1	..	4
Philosophy	..	5	2	..	3	10	8	1	..	1	1	..	1
Philosophy (English or History)	..	4	5	1	1	11	10	..	..	1	1	..	..
Commerce and Finance	..	32	9	1	..	42	27	14	1	..	..	..	5
Mathematics	..	4	2	..	..	6	4	..	1	1	1	..	1
Mathematics and Physics	..	10	6	..	..	16	13	..	..	3	..	..	3
Physics	..	1	..	..	..	1	..	..	1	..	..	..	..
Biology	..	..	2	..	..	2	2	..	..	..	..	..	..
Biological and Medical Sciences	..	15	9	2	..	26	26	..	..	..	2	..	1
Chemistry and Mineralogy I	..	2	3	..	..	5	4	1	..	..	..	..	1
Chemistry and Mineralogy II	..	..	1	..	..	1	1	..	..	..	..	..	..
Chemistry	..	..	2	..	..	2	2	..	..	..	..	..	..
Geology and Mineralogy	..	3	..	1	..	4	2	2	..	..	..	1	..
Science (General)	..	..	1	..	..	1	1	..	..	..	..	..	..
Household Science	..	1	..	..	..	1	1	..	..	..	..	..	..
Household Economics	..	12	4	2	1	19	19	..	..	..	..	..	..
Occasional Students	1	2	2	1	..	6	6	..	..	..	..	..	..
Totals	1	275	150	28	36	490	389	61	26	14	14	1	30

Fourth Year

	University of Toronto	Univ. Coll.	Vic. Coll.	Trin. Coll.	St. M. Coll.	Totals	Passed	Granted standing on Active Service	Starred	Failed	Aegrotat	Pass Degree
Pass		99	59	18	34	210	181	4	23	6	10	..
Supplementals		9	1	..	1	11	8	..	3	..	..	..
Classics		6	1	..	..	7	7	..	..	..	..	..
Orientals (Greek)		3	..	..	..	3	3	..	..	..	..	..
Moderns		23	11	1	3	38	38	..	..	..	1	..
English and History		18	9	..	1	28	28	..	..	..	3	..
Modern History		2	2	2	2	8	8	..	..	..	..	..
Political Science (Economics)		10	..	..	..	10	10	..	..	..	1	4
Political Science (Law)		18	1	1	2	22	20	..	..	2	1	6
Commerce and Finance (B.A.)		12	2	..	..	14	14	..	..	..	1	1
Commerce and Finance (B.Com.)		18	6	..	1	25	21	..	..	4	..	..
Philosophy		6	2	..	5	15	15	1	..	..	..	1
Philosophy, English or History		7	1	..	..	8	8	..	..	..	..	..
Mathematics		4	..	..	..	4	4	..	..	..	..	..
Mathematics and Physics I		..	1	..	..	1	1	..	..	..	..	..
Mathematics and Physics II		8	1	..	..	9	9	..	..	..	..	..
Mathematics and Physics III		2	..	..	..	2	2	..	..	..	..	..
Biology		6	2	..	..	8	8	..	..	..	..	..
Biological and Medical Sciences		12	5	1	..	18	18	..	..	..	1	..
Chem., Mineral. and Geol. I		..	1	..	..	1	1	..	..	..	..	..
Chem., Mineral. and Geol. II		1	..	..	..	1	1	..	..	..	..	..
Chemistry		1	..	..	..	1	1	..	..	..	..	..
Household Science		1	..	..	..	1	1	..	..	..	..	..
Household Economics		7	12	1	..	20	20	..	..	..	..	..
Occasional Students	5	5	2	2	3	17	16	..	..	1	..	..
Totals	5	278	121	26	52	482	443	5	26	13	17	12

TEACHERS' CLASSES

	Passed	Starred	Aegrotat
May Examination	182	31	2
September Examination	142	28	1
Totals	324	59	3

(2) FACULTY OF MEDICINE

	Passed	Starred	Failed
First Year	77	28	6
Second Year	74	19	2
Third Year	90	22	10
Fourth Year	90	18	1
Fifth Year	103	10	3
Sixth Year	183	3	2
D.P.H	2	1	..
B.Sc. (Med.)	7	..	..
Totals	626	101	24

(3) FACULTY OF APPLIED SCIENCE AND ENGINEERING

	Passed with Honours	Passed	Starred	Failed
First Year—				
Civil Engineering	5	11	5	1
Mining Engineering	1	9	5	2
Mechanical Engineering	6	8	2	5
Architecture	2	8	4	1
Chemical Engineering	2	23	13	6
Electrical Engineering	4	25	11	3
Metallurgical Engineering	0	4	3	0
Second Year—				
Civil Engineering	0	13	8	5
Mining Engineering	1	9	5	1
Mechanical Engineering	4	14	9	2
Architecture	2	4	1	2
Chemical Engineering	2	15	12	1
Electrical Engineering	3	26	16	1
Metallurgical Engineering	0	1	1	0
Third Year—				
Civil Engineering	3	13	8	5
Mining Engineering	0	4	2	1
Mechanical Engineering	1	16	9	6
Architecture	1	8	1	1
Chemical Engineering	4	14	8	0
Electrical Engineering	4	28	14	5
Metallurgical Engineering	1	1	0	1
Fourth Year—				
Civil Engineering	8	12	1	3
Mining Engineering	3	3	1	0
Mechanical Engineering	6	10	4	4
Architecture	1	5	3	0
Chemical Engineering	2	11	1	0
Electrical Engineering	3	17	3	2
Metallurgical Engineering	0	3	0	0
Totals	69	315	150	58

(4) FACULTY OF HOUSEHOLD SCIENCE

	Passed	Starred	Transferred to Pass Course	Failed
First Year	18	8	4	4
Second Year	9	6	1	1
Third Year	5	..	..	..
Totals	32	14	5	5

(5) ONTARIO COLLEGE OF EDUCATION

	Passed	Failed
*High School Assistants' Course	271	..
Specialists' Courses	92	..
First Class Public School Course	29	..
Elementary Art Course	37	..
Elementary Physical Culture Course	172	..
One Year Household Science Course	7	..
Bachelor of Pedagogy Course	22	..
Bachelor of Pedagogy Course (passed in part)	55	..
Number who failed in whole or part	..	44
Totals	685	44

*Many of these are included among those who passed or failed in the other courses in this list.

(6) FACULTY OF FORESTRY

	Passed	Honours Deferred	Failed
First Year	5	3	5
Second Year	8	3	..
Third Year	4	3	..
Fourth Year	13	..	..
Totals	30	9	5

(7) FACULTY OF MUSIC

	Passed	Starred	Failed
First Year	14	4	2
Second Year	8	6	..
Third Year	1	6	11
Doctor of Music	..	1	..
Totals	23	17	13

(8) FACULTY OF DENTISTRY

	Passed	Starred	Failed
First Year	32	13	6
Second Year	53	9	6
Supplementals, students not in attendance	2	..	..
Third Year	42	16	2
Fourth Year	56	4	..
Fifth Year	73	9	3
Supplementals, students in attendance first semester	5	1	..
Dental Nurses	13	..	..
Totals	276	52	17

APPENDIX D

GEOGRAPHICAL DISTRIBUTION OF STUDENTS

The geographical distribution of students is as follows:

FACULTY OF ARTS

	University of Toronto	University College	Victoria College	Trinity College	St. Michael's College	Duplicates	Totals
Ontario: (1) Province	103	535	343	98	107	15	1,171
(2) Toronto	214	737	196	51	90	7	1,281
Nova Scotia	1	2	..	1	..	..	4
New Brunswick	1	4	..	..	3	..	8
Prince Edward Island	..	1	..	1	..	..	2
Quebec	..	7	2	..	3	2	10
Manitoba	..	8	..	..	..	..	8
Saskatchewan	..	13	28	1	..	..	42
Alberta	1	5	2	..	..	..	8
British Columbia	..	6	3	5	2	..	16
Yukon	..	1	..	..	..	..	1
United States	8	14	3	8	13	..	44
Elsewhere	2	14	12	1	1	1	31
Duplicate registrations	..	..	..	..	..	25	..
Totals	330	1,347	589	166	219	..	2,626

SUMMARY

	Faculty of Arts	Faculty of Medicine	Faculty of Applied Science and Engineering	Faculty of Household Science	College of Education	Faculty of Forestry	Faculty of Music	School of Graduate Studies	Faculty of Dentistry.	Department of Social Service	Department of Public Health Nursing	Duplicates	TOTALS
Ontario:													
(1) Province	1,171	376	213	20	264	21	19	120	177	29	116	24	2,502
(2) Toronto	1,281	333	203	33	183	10	35	139	98	47	68	27	2,403
Nova Scotia	4	3	..	..	4	..	..	5	1	5	3	..	25
New Brunswick	8	..	1	..	4	..	..	..	4	2	3	1	21
Prince Edward Island	2	..	..	..	1	..	..	1	..	1	1	..	6
Quebec	10	1	..	..	2	4	..	2	1	..	1	..	21
Manitoba	8	1	2	..	17	1	..	7	26	2	1	1	64
Saskatchewan	42	21	5	1	13	..	..	10	16	..	4	2	110
Alberta	8	14	4	..	4	..	3	7	7	3	..	..	50
British Columbia	16	35	5	..	9	1	2	16	7	..	..	2	89
Yukon	1	1	2	..	..	..	..	..	..	..	..	..	4
United States	44	6	1	1	1	1	4	4	7	..	2	..	71
Elsewhere	31	17	9	2	2	6	..	18	2	8	19	..	114
Totals	2,626	808	445	57	504	44	63	329	346	97	218	57	5,480

The students from the Province of Ontario are distributed as follows:

	Faculty of Arts	Faculty of Medicine	Faculty of Applied Science and Engineering	Faculty of Household Science	College of Education	Faculty of Forestry	Faculty of Music	School of Graduate Studies	Faculty of Dentistry	Department of Social Service	Department of Public Health Nursing	Duplicates	TOTALS
Algoma	7	6	2	..	..	1	..	..	4	1	1	..	22
Brant	39	21	7	..	3	..	..	2	1	..	3	..	76
Bruce	24	6	3	..	4	2	..	2	4	1	6	..	52
Carleton	41	10	4	..	16	1	..	6	18	2	9	1	106
Dufferin	13	2	1	1	4	..	..	1	2	..	3	..	27
Dundas	11	1	1	1	5	..	..	1	1	1	2	..	24
Durham	26	6	4	..	5	..	1	2	2	..	2	..	48
Elgin	13	8	3	..	3	..	..	1	3	..	..	..	31
Essex	32	16	4	1	6	1	2	3	3	..	..	..	68
Frontenac	2	..	..	..	4	..	1	3	1	..	..	..	11
Glengarry	4	..	..	..	1	..	..	..	..	1	..	..	6
Grenville	10	3	..	..	3	1	..	..	2	..	..	2	17
Grey	37	11	7	..	6	2	..	3	2	..	4	..	72
Haldimand	19	9	2	..	3	..	..	1	1	..	1	..	36
Haliburton	..	..	..	..	..	..	..	..	..	..	..	..	..
Halton	37	11	11	2	4	..	1	4	3	..	2	..	75
Hastings	19	8	5	1	5	..	1	3	1	..	3	1	45
Huron	38	9	6	..	8	1	..	5	8	2	1	1	77
Kenora	1	..	..	..	..	..	..	..	1	..	..	..	2
Kent	17	12	3	..	5	..	..	2	4	1	..	1	43
Lambton	21	5	1	1	5	..	..	3	6	..	2	..	44
Lanark	16	3	..	..	8	1	..	3	4	1	4	..	40
Leeds	17	3	2	..	6	..	..	1	3	1	..	1	32
Lennox & Addington	9	1	..	..	5	..	..	..	1	..	1	..	17
Lincoln	34	14	8	1	5	..	..	3	2	..	1	..	68
Manitoulin	4	..	..	..	..	..	..	..	..	..	..	..	4
Middlesex	24	4	11	3	27	..	1	8	9	2	1	..	90
Muskoka	10	3	3	..	2	1	..	..	1	..	2	..	22
Nipissing	9	4	..	..	4	..	..	2	1	..	3	..	23
Norfolk	16	8	3	1	2	..	..	1	3	..	1	1	34
Northumberland	13	6	4	..	5	..	..	2	3	..	6	..	39
Ontario	49	13	9	1	8	..	..	7	4	..	5	2	94
Oxford	30	6	7	..	11	..	1	4	2	1	3	1	64
Parry Sound	9	1	1	2	1	..	..	..	3	..	..	..	17
Peel	37	12	9	..	2	..	..	2	2	..	4	2	66
Perth	31	8	4	..	12	..	2	3	2	..	1	1	62
Peterborough	31	5	7	..	8	..	2	4	5	..	1	..	63
Prescott	1	1	..	..	3	..	..	1	1	..	..	..	7
Prince Edward Is.	1	..	..	..	2	..	..	1	1	1	..	..	6
Rainy River	1	..	..	..	2	..	..	1	..	..	..	..	4
Renfrew	18	2	1	..	9	..	..	1	5	..	1	..	37
Russell	2	..	..	..	1	..	..	..	..	..	..	..	3
Simcoe	75	23	14	1	7	1	..	4	11	5	15	1	155
Stormont	5	..	1	..	..	..	..	1	..	..	..	..	7
Sudbury	6	5	..	1	1	1	..	..	1	..	..	..	15
Thunder Bay	12	3	6	..	3	..	..	..	6	..	1	..	31
Timiskaming	3	2	2	..	2	..	..	1	1	..	1	..	12
Victoria	18	8	1	..	2	..	..	1	..	..	3	..	33
Waterloo	53	13	11	..	7	..	..	3	2	2	7	1	97
Welland	30	13	9	..	2	..	1	..	8	..	..	3	60
Wellington	50	16	5	..	8	..	1	6	1	..	4	..	91
Wentworth	85	31	13	1	11	1	3	7	20	3	2	4	173
York	61	24	18	2	8	7	2	11	8	4	10	1	154
Toronto	1,281	333	203	33	183	10	35	139	98	47	68	27	2,403
Totals	2,452	709	416	53	447	31	54	259	275	76	184	51	4,905